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**an examination of the law relating to the
water rights of everglades national park**

robert e. eisenbud

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An Examination of the Law Relating to the Water Rights of
the Everglades National Park: A Case Study in Legal Problems
of the Coastal Zone

Robert Eisenbud

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University of Miami Sea Grant Program - NOAA Sea Grant No. 2-35147
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PREFACE

The Sea Grant Colleges Program was created in 1966 to stimulate research, instruction, and extension of knowledge of marine resources of the United States. In 1969 the Sea Grant Program was established at the University of Miami.

The outstanding success of the Land Grant Colleges Program, which in 100 years has brought the United States to its current superior position in agriculture production, helped initiate the Sea Grant concept. This concept has three primary objectives: to promote excellence in education and training, research, and information services in sea related university activities including science, law, social science, engineering and business faculties. The successful accomplishment of these objectives, it is believed, will result in practical contributions to marine oriented industries and government and will, in addition, protect and preserve the environment for the benefit of all.

With these objectives, this series of Sea Grant Technical Bulletins is intended to convey useful studies quickly to the marine communities interested in resource development without awaiting more formal publication.

While the responsibility for administration of the Sea Grant Program rests with the National Oceanic and Atmospheric Administration of the Department of Commerce, the responsibility for financing the Program is shared by federal, industrial and University contributions. This study, An Examination of the Law Relating to the Water Rights of the Everglades National Park: A Case Study in Legal Problems of the Coastal Zone, is published as a part of the Sea Grant Program and was made possible by Sea Grant support for the Ocean Law Program.

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INTRODUCTION

Southern Florida is a flat peninsula which slopes very gradually southward toward the Gulf of Mexico. The entire peninsula is a natural watershed over which fresh-water traditionally flowed southward to mix with salt-water and form a highly productive estuarine environment supporting a delicately balanced and rich ecosystem.

The eastern portion of the watershed of southern Florida has been radically altered by extensive drainage and flood control operations of the Central and Southern Florida Flood Control District. These operations involve the use of a series of drainage canals and levees with dams to regulate water flow and to prevent salt-water intrusion from the ocean and bays. Big Cypress Swamp forms the western portion of the watershed and has remained relatively undrained and undeveloped.

The Everglades National Park is located at the southern tip of the peninsula. The ecosystem of the Park is dependent for its survival upon high quality water of sufficient quantity flowing from the north and timed to correspond to the life cycles and processes of the biota of the region. National Park Service officials have been negotiating for years with state and federal agencies in an

attempt to secure a guaranteed water supply for the Park from the Flood Control District. These continuing difficulties in the eastern portion of the watershed, recent threats to the water supply of the Park from activities in the western portion of the watershed including the proposed and partially completed Jetport and drainage operations by private landowners in the Gum Slough area, and stubborn problems within the Park boundaries have caused concern among federal and state agencies, conservation groups and others interested in the Park and the integrity of the southern Florida environment.

The Everglades National Park is not only a unique life system but, perhaps more importantly, it is an early warning system, an indicator of the effects of human activity upon the environment. The economically valuable commercial and sportfishing industries which are supported by the estuarine areas of the Park render the dangers to the Park ecosystem palpable to others besides the traditional conservationists. Fresh-water supply for southern Florida communities is also threatened by drainage proposals which would eliminate the diffused waters which recharge the aquifers from which water is drawn for municipal purposes.

The specific problems with which the Everglades National Park is faced are symptoms of broader problems threatening the future of all south Florida and the nation.

The problems resulting from the dependence of the Park upon the natural flow of high quality water from the north may be instructively analyzed as a case study of the more general and often less dramatically and palpably evident relationship between man's activities and the natural environment. These considerations led the Environmental Study Group of the National Academy of Sciences and National Academy of Engineering to examine these problems in an effort to determine "whether there existed an institutional base to treat environmental problems in such a way that future generations would not be burdened with an enormous environmental debt."¹ The purpose of this study is to continue this inquiry by examining selected problems facing the Park in an effort to determine and evaluate the role of law as an institution in treating environmental problems. The study concentrates on the law relating to the water rights of the Park. It attempts to deal with these problems as "coastal zone problems" which the Commission on Marine Sciences, Engineering and Resources describes as arising in

. . . a region of transition between environments, the land and the sea. The coastal zone has been defined as that part of the land affected by its proximity to the sea and that part of the ocean affected by its proximity to the land.²

¹Environmental Study Group of the National Academy of Sciences and National Academy of Engineering, Environmental Problems in South Florida 1 (1969) [hereinafter cited as Report of the Environmental Study Group].

²Commission on Marine Sciences, Engineering and

The interaction between land and water based interests has posed problems for the law and many of these problems are illustrated in the analysis of the water rights of the Park. The physical setting for controversies is neither completely wet nor dry; the waters involved are neither completely inland nor tidal. The system is dynamic and its components cannot be isolated without doing violence to the integrity of the system. The traditional law based upon interests in dry land, inland waters or the deep sea attempts to isolate and treat aspects of this system but does not adequately consider the complex interdependence of the one upon the other, nor does it adequately reflect the current concern with ecology and the certainty that human activities must be viewed as simultaneously impacting and dependent upon the natural environment. This study approaches the problems of Everglades National Park from a perspective which views the role of law as a component in a dynamic system and recognizes the significance and challenge to the role of law and social institutions expressed by Joseph Wood Crutch:

Any fully matured science of ecology will have to grapple with the fact that man, from the ecological point of view, is one of those animals which are in danger from a too successful participation in the struggle for existence. He has upset the balance of nature to a point where he

Resources, Panel Reports Vol. 1, Science and Environment, Report of the Panel on Management and Development of the Coastal Zone, III-7 (1969).

has exterminated hundreds of other animals and has exhausted soils. Part of this he calls a demonstration of his intelligence and of the success which results from his use of it. Because of that intelligence he has learned how to exploit resources very thoroughly, and he is even beginning to learn how to redress the balance in certain minor ways. But he cannot keep indefinitely ahead of overcrowding and starvation; and from the standpoint of nature as a whole, he is both a threat to every other living thing and, therefore, a threat to himself also.

The more completely we bring nature under control, the more complicated our methods become, the more disastrous the chain reaction set up by any failure of wisdom or watchfulness or technique. We are required to know more and more, and we are always threatened by the impossibility of achieving adequate knowledge, much less adequate wisdom and virtue.³

³Quoted in D. Tabb, A Summary of Existing Information on the Fresh-Water Brackish-Water and Marine Ecology of the Florida Everglades Region in Relation to Fresh-Water Needs of Everglades National Park, Report to the U.S. National Park Service, 5, 6 (1963).

METHOD

This study attempts to consider selected processes of use of the southern Florida peninsula and patterns of conflicting claims over its resource values. It was determined that a rather detailed discussion of the general ecosystem of which the Park is a part was essential in order to demonstrate that, in most cases, one value secured means that another value is foregone, and that the attainment of many such values exacts a price from others and from the overall system which is sufficiently demonstrable or predictable to be cognizable in the law as an "effect" or "injury."

The decision process is viewed as including court decisions as well as the actions of political and other non-judicial decision-makers responding to diverse interests and capable of resolving claims for a quality human and natural environment pursuant to values of contemporary society. An attempt is made to analyze the claim and decision process in order to demonstrate that the legal system is capable of responding to Park and other environmental interests which have sometimes, erroneously, been described as "non-legal" considerations.⁴

⁴The comments of McDougal and Burke on the law of

The surprising dearth of analysis and commentary on the law regarding the problems of the Everglades National Park dictated an approach which has attempted to outline in broad strokes the potentially applicable legal doctrines, to make as thorough a general survey as is possible in this study, and to suggest areas for further research. Due to the scope of the problems, it is necessary to concentrate on selected controversies which reveal the present state and potential utility of the law in this area.

the sea are equally applicable to an analysis of the problems of the Park. "It may be hoped that a detailed itemization of the factors which authoritative decision-makers observably take into account will do much to dispel the misconception . . . that 'economic,' 'sociological,' and 'political' considerations are not 'legal' considerations and that there is an unbridgeable gap between legal and other considerations. If all that is meant by the limited notion of what legal considerations include is that past practice has established certain crystallized expectations about what factors a decision-maker is authorized to take into account, it may do no harm. If, however, what is meant by the notion is that these crystallized expectations do not point to economic, sociological, and political factors, and that a decision-maker is not authorized to apply inherited formulations by reference to such contemporary factors in the context before him, then it may be suicidal illusion. The rules of the law of the sea, like other legal rules, exhaust their effective power when they guide a decision-maker to relevant factors and indicate presumptive weightings. Even the most definitive of past crystallizations . . . are but commonly accepted weightings of [their] economic, sociological, and political importance . . . and on occasion even these are made to yield to other factors and other weightings." M. McDougal and W. Burke, *Public Order of the Oceans*, 58, n. 131a (1962)". . . . Clarity about the process of decision may enable an observer to distinguish, and hence more effectively to perform, the very difficult intellectual tasks of describing past trends in decisions, of studying the factors which have in fact affected decisions, of projecting probable decisions into the future and of recommending what decisions should be--a set of inquiries much too often compressed into a simple question of what 'the law is.'" Id. at 14, n. 35.

CHAPTER I

THE SETTING FOR CONTROVERSIES

A. The South Florida Ecosystem

The south Florida peninsula is best viewed as a dynamic aquatic system. The abundant and diverse life forms, including man, are in delicate balance and totally dependent upon the dominant topographical and ecological characteristic of water.

The peninsula may be compared to a shallow saucer which is tilted "almost imperceptibly toward the south and west,"⁵ and forms a large watershed composed of several closely interrelated subsystems.⁶ The Okeechobee-Everglades and Big Cypress Drainage basins occupy about 70 percent of the coastal lowland of south Florida. The highest elevations in this area are about 20 feet above mean sea level. The seaward slope of the peninsula from Lake Okeechobee to Florida Bay and the Gulf of Mexico averages about one foot to every six miles, or two inches per mile.

The extreme flatness of the peninsula produces

⁵W. Robertson, *Everglades--The Park Story*, 1959, quoted in D. Tabb, [*supra* n. 3], p. 7.

⁶The description of the southern Florida environment which follows is digested from U.S. Dept. of Interior, *Environmental Impact of the Big Cypress Swamp*, 1969 [hereinafter cited as *Leopold Report*].

three conditions which are important to the ecology of the area and to the analysis of the problems which follows. First, fresh-water flow to the south is exceedingly slow, approximately one half mile per day, which extends the period of wetness (hydroperiod) 3 to 4 months beyond the actual period of rainfall. Second, the flatness of the basin determines the distribution of water. Shallow sheets of water are spread over very large areas and drainage which lowers surface water levels even a few inches can dry thousands of acres. Third, the drainage basin intersects the plane of sea level at an almost imperceptible angle with the consequence that minor variations in sea level or the fresh-water level will result in salt-water penetration or intrusion of the shore areas.⁷

1. Climate and Hydrology

Prior to the influence of man, the southern Florida watershed covered some 9,000 square miles and extended to the headwaters of the Kissimmee River near Orlando in south central Florida. The waters of the Kissimmee River basin were retained in various lakes which overflowed during the wet summer months into Lake Okeechobee which itself overflowed its southern shore to send sheets of fresh water coursing southward into the Everglades. Thomas notes that:

⁷Id. at 3, 4.

The picture which emerges from such sparse and subjective description (as exists) is of the predrainage basin acting as a vast saturated sponge contained within the Atlantic ridge and the thick vegetation to the north. . . . through which fresh water flowed, building up peat and muck soil deposits, and recharging the Biscayne Aquifer to empty by subterranean channels, springs or seasonal rapids into the sea, with the large volume of fresh water acting as a constantly replenished barricade against salt water encroachment.⁸

The climate of most of south Florida has been classified as either "tropical savannah," "wet subtropical" or "tropical rainy" depending upon the system of classification,⁹ but the essential point to be noted is that

such regions have a relatively long dry season and not enough rain during the rainy season to compensate for water lost each year through evapotranspiration. These regions experience a recurring water deficit during normal six month dry seasons and depend on sources from outside the area for water to offset the scarcity.¹⁰

Summer thunderstorms, of marine origin, produce highly erratic seasonal rainfall and runoff. Hurricanes and tropical storms in summer and fall often produce exceptional rainfalls. The rainfall in this region averages 57.0 inches per year with winter and spring constituting the dry

⁸T. Thomas, A Detailed Analysis of Climatological and Hydrological Records of South Florida with Reference to Man's Influence Upon Ecosystem Evolution, Rep. to U.S. National Park Service, 68 (1970). See also D. Tabb [supra n. 3], at 17, 18 for descriptions of predrainage water flow and supplies.

⁹T. Thomas [supra n. 8], at 79, 80; D. Tabb [supra n. 3], at 10.

¹⁰D. Tabb [supra n. 3], at 10.

season.¹¹ Evapo-transpiration consumes about 75 percent to 95 percent of the annual rainfall and in some years evapo-transpiration exceeds annual rainfall.¹²

2. Provinces or Sybsystems of the Watershed

(Figure I-1)

a. Everglades

The original Everglades were described by the Seminole Indians as "Pa-hay-o-kee," meaning "River of Grass." Robertson describes the formation of this area:

To make an Everglades in this enclosed level area, two things . . . were required--water, and a covering impervious enough to keep the water from escaping into the porous underlying limestone. Water there was in plenty. Rainfall amounted to about 60 inches a year. In addition, the natural drainage of a large area in central Florida flowed into Lake Okeechobee and in flood seasons moved seaward by spilling over the low south shore of the lake. The caulking--which allows some seepage but not drainage--was provided in early recent times by marl soils deposited on top of the limestone and reinforced later by peat deposits laid down by sawgrass and other marsh plants.¹³

The significant features of the Everglades will be discussed in connection with the other subsystems to which it is closely related.

b. Big Cypress Swamp

The Big Cypress Swamp, like the Everglades

¹¹Leopold Report [supra n. 6], at 17; T. Thomas [supra n. 8], at 15-39.

¹²Leopold Report [supra n. 6], at 18.

¹³W. Robertson, Everglades--The Park Story (1959), quoted in D. Tabb [supra n. 3], at 7.

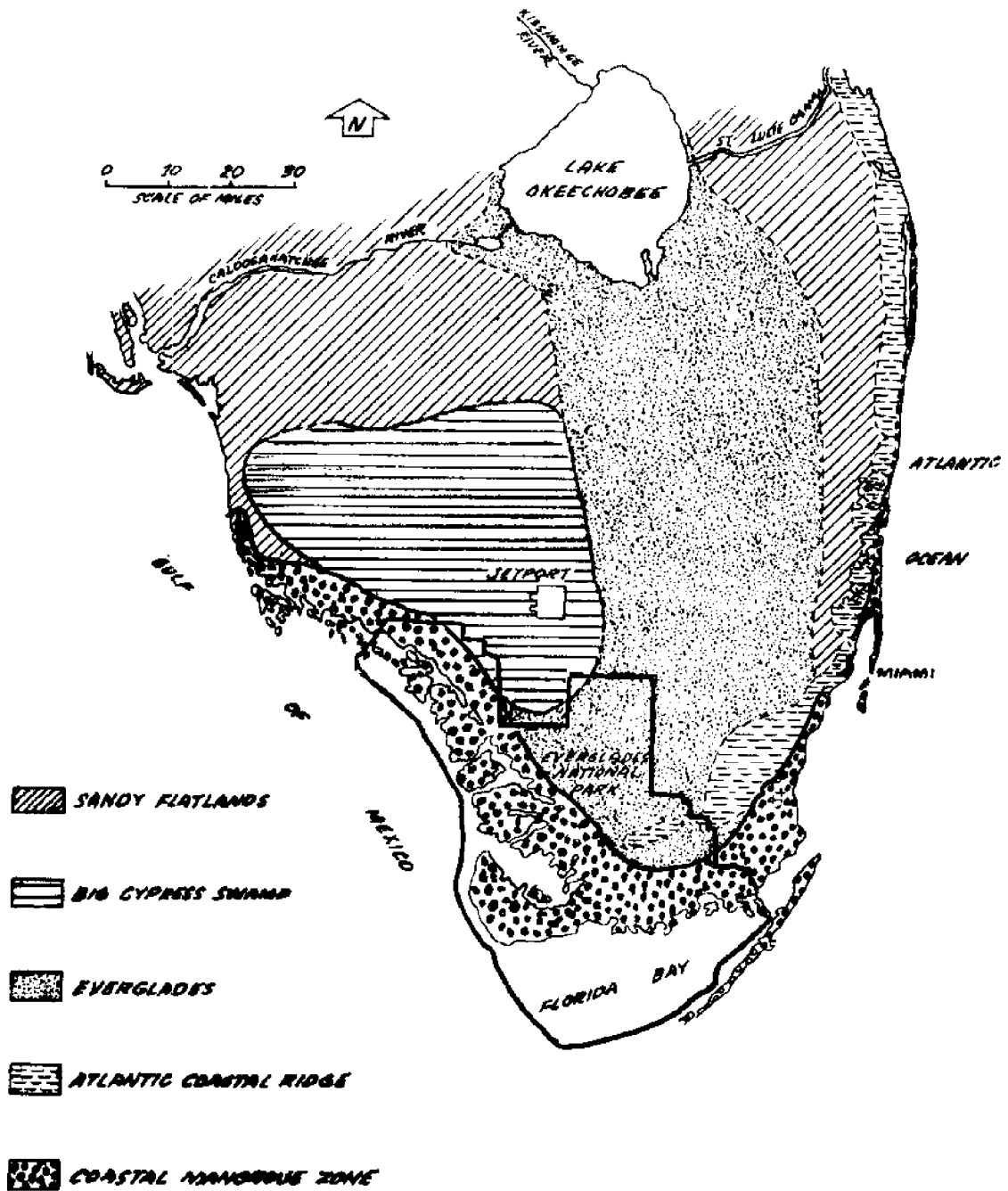


Figure I-1. Topographic and Ecologic Map of Southern Florida Showing Provinces of the Watershed

to the east, is best viewed as an aquatic environment. Most of the ground surface of both areas is covered with a shallow sheet of surface water which recedes to ponds and sloughs in the dry season of winter and spring. Water covers most of the areas three to four months of the normal year and covers low lying areas about 70 percent of the time.¹⁴

Several types of habitat may be distinguished within the Big Cypress.¹⁵ Pine Flatwoods or hammocks are the driest habitat consisting of forests of pine and saw palmetto--growing on areas of highest elevation. Hardwood hammocks consist of pine, cypress, bay, magnolia, cocoplum and other trees growing throughout the area. The Cypress Swamp consists of bald cypress, maple and other swamp hardwoods. This area has a longer hydroperiod than the previously mentioned habitats and its shallow waters teem with a diversity of aquatic life which provides food for great numbers of birds and other animals. The Wet Prairie is found between the elevation of pine flatwoods and cypress swamp. It is a treeless area of mixed grass-sedge marsh with little or no sawgrass and is periodically dry.

¹⁴Leopold Report [supra n. 6], at 23.

¹⁵The discussion which follows is digested from Federal Water Quality Administration, U.S. Dept. of Interior, A Synoptic Survey of Limnological Characteristics of the Big Cypress Swamp, Florida, 33-37 (1970) [hereinafter cited as Federal Water Quality Administration Report].

The Sawgrass Marsh is the vegetative bridge between the Everglades and Big Cypress systems and serves to unite them in an interrelated ecological system. Cypress trees dot the sawgrass of the Big Cypress but the habitats are otherwise essentially the same in the two areas. The sawgrass marsh or "river of grass" is found at the lowest elevation and has a long or continuous wet period. The Slough is a topographical depression which forms a wide, shallow channel that serves as a natural drainage canal. These sloughs channel the water southward in its course to Florida Bay and the Gulf of Mexico, and during the dry season the sloughs and a few ponds are often the only wet areas. The aquatic life of this habitat is abundant and diversified. The largest slough in the Big Cypress is the Fakahatchee Strand. "It is the major drainage slough of the southwestern Big Cypress and supports a mixed stand of cypress and native royal palm, a forest type which is unique on earth."¹⁶ Thirty-eight species of orchids grow there, seven of which are unique to the area.¹⁷ The Okaloocoochee Slough is the other principal natural drainage channel coursing water southward.

The Leopold Report notes that:

The most important fact about the Big Cypress Swamp is that it is an integral part of the

¹⁶Leopold Report [supra n. 6], at 21.

¹⁷Geological Survey, Water Resources Div., U.S. Dept. of Interior, Some Hydrologic and Biologic Aspects of the Big Cypress Swamp, 23 (1970) [hereinafter cited as Geological Survey Report].

biological functioning of the south Florida ecosystem. Many animal species are sufficiently mobile to utilize the whole region of Everglades cypress swamp and mangrove coastal glades at some time during their life cycle.¹⁸

Among the diverse and abundant plant and animal life inhabiting the Big Cypress watershed are 12 birds included in the list of rare and endangered fish and wildlife of the United States.¹⁹ Common and rare mammals found in the area include the mangrove fox squirrel, the manatee, the Florida panther, and the Everglades mink, all considered rare and endangered species, as well as black bear, white tailed deer, raccoon, opossum, otter and others. A total of 15 to 20 amphibians and 55 to 60 reptiles are found in the area, including the rare and endangered American alligator.²⁰

c. The Coastal Mangrove Zone

The seasonal fresh-water run-off from the Big Cypress and Everglades watersheds passes into a broad and mangrove-dominated estuarine zone along the coast of the peninsula. The Leopold Report notes that:

The coastal zone is characterized by levels of productivity and species diversity as high as can be found within the continental United States. In addition to its very large bird

¹⁸Leopold Report [supra n. 6], at 24, 25.

¹⁹Eastern brown pelican, Florida great white heron, wood ibis, roseate spoonbill, Florida Everglades kite, southern bald eagle, American osprey, American peregrine falcon, Florida sandhill crane, Cape Sable sparrow, short-tailed hawk.

²⁰Leopold Report [supra n. 6], at 87-108.

populations . . . the area produces or maintains hundreds of species of aquatic organisms.²¹

Dr. C. P. Idyll notes that it has been estimated that two-thirds of the fish harvested in the United States depend on estuaries for part of their existence and explains the high productivity of this and other estuarine environments.

The reason that estuaries are of such high value is that they are by far the most productive areas of the sea. The richest of estuaries are more productive than the richest of land and far more productive than the open sea. The reason for this great productivity is that estuaries trap nutrients. These accumulate in the shallow, well-lighted areas where photosynthesis by plants can take place. The plant material thus produced is necessary for the production of the various animals in the food chain above. The size of the animal population in each trophic level above the plants depends upon the size of plant production, and the fortunate combination of high mineral content, high illumination and the warm temperatures in Florida make these areas of the utmost importance in the biological system.

Another biological characteristic of estuaries is the extreme delicacy of the balance of their biological communities. They are influenced markedly by the supplies of saline water from seaward and by the supplies of fresh water from landward. The biological balance and productivity are easily upset by excessive amounts of either of these and by alterations in the depth and quality of the water.²²

Recent studies have demonstrated the vital role of red mangroves in trapping nutrients in their root systems and supplying great quantities of dead plant material to form

²¹Id. at 109.

²²Statement of Dr. C. P. Idyll, Institute of Marine Sciences, University of Miami at a hearing on the Value of Estuaries, March 12, 1968.

the basis of the food web.²³ The Leopold Report notes that:

As the plant debris degrades, it becomes relatively rich in protein, probably as a result of buildup of microbial populations which use the debris as a nutrient source. An important element in the degradation process is that it proceeds more rapidly in brackish water than in fresh water or under subaerial conditions.

The study also demonstrated that the energy source provided by mangroves is important not only within the mangrove zone but extends well beyond the forest and into the adjacent bays and coastal areas. The dead plant materials from these trees is transported from the mangrove forests to the bays and coastal areas principally in the months November through February, when northeast winds blow coastal waters off shore, causing gravity drainage of fresh and brackish detritus-laden waters from the marshes. The material is then available to many species which are unable to tolerate estuarine conditions.²⁴

In addition to the food source function of the mangrove coastal zone, this area also serves as a protective harbor and nursery for juvenile organisms. The fresh-water flowing from Big Cypress and the Everglades is important to create the brackish environment in which detritus degrades most rapidly and so too is it essential to create the waters of low salinity in which grasses and mangrove roots

²³E. Heald, "The Production of Organic Detritus in a South Florida Estuary," Ph.D. Dissertation, Univ. of Miami (1969); W. Odum, "Pathways of Energy Flow in a South Florida Estuary," Ph.D. Dissertation, Univ. of Miami (1970). Discussed in Geological Survey Report [supra n. 17], at 63; Leopold Report [supra n. 6], at 113-15. See also J. Fell and I. M. Master, Fungal Degradation of Mangrove Leaves and Roots, Possible Importance in the Estuarine Food Chain, Proceedings of the Belle Baruch Symposium in Marine Science Estuarine Microbial Ecology, Univ. of S. Carolina, June 7-9, 1971 (in press).

²⁴Leopold Report [supra n. 6], at 114.

create a sheltered environment for juveniles. Adult predators are not able, physiologically, to tolerate the low salinities of the mangrove zone and the juveniles, capable of tolerating the brackish-water environment, thrive in the nursery.

Sixteen commercial species of fish found in the waters of southern Florida are dependent upon the brackish-water of the estuaries at some stage of their life cycle. Data from the National Marine Fisheries Service indicate that more than two million pounds of marine animals with a value of more than \$300,000 were landed in the vicinity of the Ten Thousand Islands alone in 1960.²⁵ It is estimated that more than 40,000 sport fishermen annually make extensive use of the area, attracted by such species as tarpon, snook, spotted sea trout, and many others.²⁶

Dr. Idyll notes that commercial and sport fishing is worth more than \$300 million to the State of Florida and approximately 90% of this catch depends heavily upon estuarine areas.²⁷ The life cycle of the valuable pink shrimp industry is illustrative of the importance of the mangrove zone to marine life and the well-being of man as measured by the multi-million dollar fishery

²⁵Geological Survey Report [supra n. 17], at 63.

²⁶Leopold Report [supra n. 6], at 110-11.

²⁷Supra n. 22.

which it sustains.²⁸ The pink shrimp spawn on the fishing grounds (Tortugas and Sanibel) and the newly-spawned larvae are carried by currents and tides to coastal estuarine areas. The larval shrimp develop through the post-juvenile stages and then move seaward to the fishing grounds to support the valuable commercial fisheries. The protection from predators in the low-salinity waters of the mangrove zone and the abundant sources of food to be found there render the mangrove zone an ideal nursery ground for the shrimp. The ability of the pink shrimp to take advantage of this zone gives it a survival advantage. Studies establishing this relationship demonstrate the direct ecological link between the coastal mangrove zone and thousands of square miles of the Gulf of Mexico.²⁹

3. The Dynamics of the Ecosystem

The Big Cypress, Everglades and Mangrove

²⁸Everglades Jetport Advisory Board, "The Big Cypress Watershed," A Report to the Secretary of Interior, at 17 (1971) [hereinafter cited as The Big Cypress Watershed Report], states that the Tortugas-Sanibel shrimp fisheries have a 1970 dockside value of \$8 million.

²⁹D. Tabb [supra n. 3], at 77; Leopold Report [supra n. 6], at 112-13. Such findings are confirmed by experience, noted by Idyll, that "nowhere is this shrimp abundant enough to support a commercial fishery where large estuarine areas are not present nearby to shelter the young stages." C. P. Idyll, Shrimp Need Fresh Water Too, presented at the Joint Convention of the Southeastern Fisheries Assoc. and the Shrimp Assoc. of the Americas, Miami Beach, June 22, 1965.

Coastal Zone comprise what is commonly referred to as the Everglades system. The subsystems function together as an ecological unit and are inextricably conjoined by the flow of fresh-water upon which each is critically dependent. The entire system is delicately balanced and adapted to the two most striking characteristics of the southern Florida peninsula: its extremely flat terrain and the seasonal, feast or famine, rainfall.

Minor variations in land or water elevation produce significant ecological consequences. Hardwood hammocks stand only one to two feet above the adjacent sawgrass marsh and exhibit totally different flora and fauna. Minor changes in water levels produce radical changes from widespread inundation to drying where only holes and ponds contain water.

A particular region may experience a water deficit during the dry season and becomes dependent upon other regions within the system for water to offset the scarcity. The Leopold Report discusses the adaptation of the system to these circumstances:

Under original conditions the overflow from Lake Okeechobee moved southward in the Everglades as a thin sheet of water over vast areas. This overflow was prolonged by the large amount of water from the Kissimmee River which drained into the lake. The overflow from the lake provided water needed to overcome the evapotranspiration deficit in the southern Everglades and to maintain its hydroperiod which originally was 9 months or longer in duration in average years.³⁰

³⁰Leopold Report [supra n. 6], at 26, 27.

The southward flow of water was essential to the integrity of the entire system. Peat soils absorbed and held the water and released it slowly, acting as a sponge, so that the flow was gradual and the water was of the quality to which the life forms were adapted. The adaptation and dependence of life forms within the system to this flow of high quality water are discussed in the Leopold Report.

During the normal rainy season . . . production of fishes, crustaceans, etc., in the aquatic communities is at maximum. Water levels normally remain high through November and then begin to decline gradually in the marshes, prairies, and glades areas. In the period March through May the water levels reach their lowest point. At this time aquatic animals become concentrated in the deeper depressions. Some of these are holes that large alligators dig and maintain as their dry season refuges. Others are topographic depressions. . . . Such holes are critical to the Everglades ecosystem, because they are the refugia in which necessary broodstocks of small fishes, crustaceans, and other aquatic animals survive the dry season.

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When the water table gets too low, peat dries and is subject to deep burning by wildfires; alligators become easily accessible and poaching increases; the area and volume of water to sustain the small aquatic organisms that form the base of the food chain is restricted and the population of such creatures decreases radically; water needed to sustain fishes, alligators, and other species is available only in the deeper depressions, the oxygen content of the water in these holes is depleted due to organic decomposition and fish kills result.

On the other hand, excessively high water also has adverse effects: alligator nests are flooded and the eggs fail to hatch; terrestrial animals such as deer and wild hogs are forced to compete for space and food on the few areas remaining above water.

A balance, at optimum range, of water levels is clearly required in the glades. In the summer wet period, extensive areas must be inundated to permit

the expansion of the aquatic populations--phytoplankton, crustaceans and fishes. Subsequently, water levels must recede to concentrate the summer production of food organisms sufficiently. This supply of food is essential for the nourishment of the larger fishes, amphibians, reptiles, mammals, and many species of birds. We have known for some time that colonial nesting birds are dependent on this wet-dry cycle for production of food.³¹

The fresh water flow ultimately determines the salinity of the estuarine mangrove zone. Tabb notes the important moderating function of fresh-water runoff from the watershed in regulating the salinity of the coastal mangrove zone and maintaining the necessary brackish character of the nursery area beyond the end of the normal rainy season.

It appears that there is about a 2 month lag between peak rainfall within the Park boundaries and minimum salinity values in Whitewater Bay. The failure of local rainfall to register a rapid depression in salinity suggests that normal local rainfall is not an important factor in regulating the salinity of local water masses such as Whitewater and Florida Bays. Runoff from the watershed north of the Tamiami Trail (Big Cypress) appears to be of major importance in controlling long-term salinities and in prolonging the periods of low salt content in the areas of highest evaporation.³²

B. The Fresh-Water Requirements of Everglades National Park

Everglades National Park is an aquatic preserve containing within its boundaries each of the three regions

³¹Id. at 27-29. See also Geological Survey Report [supra n. 17], at 60; D. Tabb [supra n. 3], at 38 passim.

³²D. Tabb [supra n. 3], at 81.

described above and dependent upon fresh-water flow from the north to sustain the ecology and thereby fulfill the purposes for which it was created. The original statute creating the Park directed that:

The said area or areas shall be permanently preserved as a wilderness, and no development of the project or plan for the entertainment of visitors shall be undertaken which will interfere with the preservation intact of the unique flora and fauna and the essential primitive natural conditions now prevailing in this area.³³

Tabb notes that:

In determining the fresh-water requirements of Everglades National Park we must keep in mind that most of the Park is dominated by the threat of periodic invasions of high salinity water from the Gulf of Mexico and Florida Bay. Contrary to popular belief the region is not one vast permanent swamp but, in reality, is largely saw-grass upland and coastal flood-plain subject to periodic flushing with fresh-water during rainy seasons and intense evaporation during the dry season. Most of the fresh-water area of the Park has no significant deposits of peaty soils that characterize the true Everglades. Hence the soils have low water retention capability. Furthermore, the region depends upon not one but three watersheds, the Everglades being the largest and best known; the others are the Big Cypress Swamp of Collier and Hendry Counties in the west and the coastal plain adjacent to north Florida Bay in the east.³⁴

The average annual overland flow to the Everglades National Park from four areas was calculated for the Leopold Report.³⁵

The pattern of fresh-water flow to the Park is shown in

³³16 U.S.C. 410 c (1964), originally enacted as Act of May 30, 1934, Ch. 371, § 4, 48 Stat. 817.

³⁴D. Tabb [supra n. 3], at 73.

³⁵Average Annual Overland Flow and Percentage of Total Flow into Everglades National Park:

Figure I-2, Pattern of Fresh-Water Flow to Everglades National Park.³⁶

The figure of 315,000 acre-feet is widely used as the average annual water needs for the Park, but this figure considers only a portion of the total watershed supplying the Park and represents only the Park's water requirements from the Central and Southern Florida Flood Control District in the eastern portion of the watershed.³⁷ It is interesting to note that the Big Cypress basin contributes between 55 and 60 percent of the surface inflow received by the Park. This inflow supplies only about 16 percent of the Park--about 350 square miles at the extreme northwest of the Park. The result is that 16 percent of the Park receives between 55 and 60 percent of the total surface inflow.³⁸

<u>Basin</u>	<u>Flow Section</u>	<u>Annual Flow Acre-feet</u>	<u>Percent of Total Flow</u>
Everglades	Into Shark River Slough	260,000	41
Big Cypress	From Jetport Area	41,000	6
Big Cypress	From Jetport to Monroe Area	112,000	18
Big Cypress	From Monroe to Carnes- town Area	195,000	31
Taylor Slough	From Taylor Slough	26,000	4
	Total	634,000	100

Leopold Report [supra n. 6], at 19.

³⁶Adapted from Leopold Report [supra n. 6], at 18.

³⁷Two hundred sixty thousand acre-feet from Conservation Area 3 into Shark Slough; 26,000 acre-feet from Taylor Slough and 129,000 acre-feet from C111 canal. Tabb suggests that Everglades National Park requires an average of between 470,000 and 500,000 acre-feet of runoff annually in order to maintain the post drainage condition, based upon figures of flow for the period 1941-57. At the other extreme, he suggests that the Park can apparently handle as much as 2,000,000 acre-feet of water annually without damage to its ecology. [Supra n. 3], at 74.

³⁸Geological Survey Report [supra n. 17], at 66.

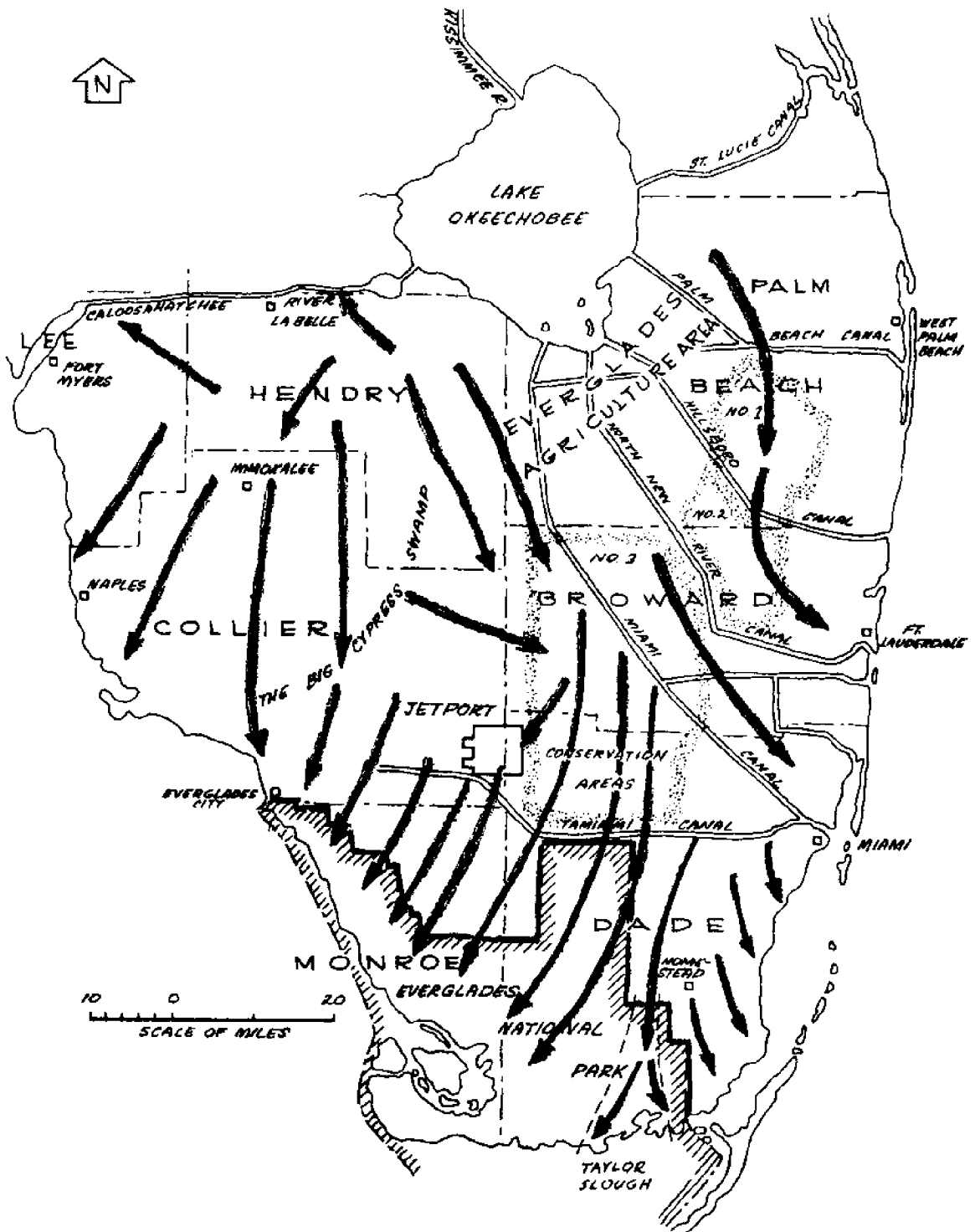


Figure I-2. Pattern of Fresh-Water Flow to Everglades National Park.

C. Drainage, Growth, Flood Control and Development of Southern Florida

The history of southern Florida has been and will continue to be critically influenced by the hydrology and overall ecology of the region. A brief examination of that history indicates that the surface waters of the peninsula have been the subject of constant concern but only recent appreciation as related to human activities.

1. Early History

By Article II of the Treaty of 1819 with Spain³⁹ "His Catholic Majesty cede[d] to the United States, in full property and sovereignty, all the territories which belong to him, situated to the eastward of the Mississippi, known by the name of East and West Florida. . . ."⁴⁰ Spain had acquired Florida under the Treaty of 1783 between Great Britain and Spain, in which Great Britain ceded to Spain "in full right East Florida, as also West Florida."⁴¹

68. See D. Tabb and T. Thomas, Prediction of Freshwater Requirements of Everglades National Park (1967), unpublished, for discussion of a method with which it is possible to predict the salinity of the estuaries of the Park and consequences of unusually low ground water conditions and thereby permit the Park Service to request fresh-water to suit the requirements of the flora and fauna of the Park.

³⁹8 Stat. 252.

⁴⁰Id. at Art. II.

⁴¹4 Am. State Papers, 154, 253; Under Article VIII of the treaty with Spain, the United States acquired the ownership of all lands, including high lands, swamp

The Territory of Florida was organized by act of Congress of March 30, 1822.⁴² The United States continued to own the lands ceded by Spain and pursued a policy of preserving the lands under navigable bodies of water and tide lands for the benefit of the future State of Florida,⁴³ and to so utilize the uplands, including swamp and overflowed lands as to encourage their settlement, "reclamation" and cultivation. Upon attaining statehood by act of Congress of March 3, 1845⁴⁴ the State of Florida became, by virtue of its sovereignty, the owner for the people of all lands under navigable bodies of water and tide lands within the State.⁴⁵ Uplands, including swamp and overflowed lands considered nonnavigable and previously owned by the United States within the limits of the State, continued to be the property of the United States, and were held for the purposes of such grants and conveyances as authorized by the Congress.

2. "Internal Improvement"

By act of Congress of September 4, 1841, the United

and overflowed lands, submerged lands and tide lands that had not been granted or conveyed to private ownership prior to January 24, 1818.

⁴²3 Stat. 654.

⁴³Shively v. Bowlby, 152 U.S. 1, 14 Sup. Ct. 548, 38 L. Ed. 331 (1894).

⁴⁴5 Stat. 742.

⁴⁵Pollard's Lessee v. Hagan, 44 U.S. 212, 3 How. 212, 11 L. Ed. 565 (1844).

States granted to certain named states and to each new state thereafter admitted into the Union, five hundred thousand acres of land within their limits for purposes of internal improvement.⁴⁶ This provision became applicable to the State of Florida upon its admission into the Union in 1845 and title to lands under this grant passed to the State.

The policy controlling the treatment of the watersheds was established early in the history of the State. The constitution of the State of Florida of 1838, in effect when it was admitted into the Union, contained the following provision:

A liberal system of internal improvements, being essential to the development of the resources of the country, shall be encouraged by the government of this state; and it shall be the duty of the general assembly, as soon as practicable, to ascertain, by law, proper objects of improvement, in relation to roads, canals, and navigable streams, and to provide for a suitable application of such funds as may be appropriate for such improvements.⁴⁷

Upon its admission to the Union, the legislature of the State of Florida proceeded to pursue the policies set forth in a resolution adopted December 10, 1845.

Whereas there is a vast and extensive region, commonly termed the Everglades, in the southern section of this State, embracing no inconsiderable portion of its entire peninsula, which has hitherto been regarded as wholly valueless in consequence of being covered by water at stated periods of the year, and the supposed impracticability of draining it. And whereas recent information, derived from the most

⁴⁶ U. S. Stats. 455, Ch. 16, § 8.

⁴⁷ Fla. Const., Art. XI, § 2 (1838).

respectable sources, has induced the belief, which is daily strengthening, that these opinions are without foundation, and, on the contrary, that at a comparatively small expense the aforesaid region can be entirely reclaimed, thus opening to the habitation of man an immense and hitherto unexplored domain perhaps not surpassed in fertility and every natural advantage by any other on the globe. And whereas it is no less the interest of the General Government than of Florida, with its vast donation of unlocated land, to adopt some early and efficient measures to test the accuracy of these representations:

Be it therefore resolved by the senate and house of representatives in general assembly convened, That our Senators and our Representatives requested, to bring this important subject to the attention of Congress at the earliest day, and earnestly press upon its consideration the propriety and policy of forthwith appointing competent engineers to examine and survey the aforesaid region.⁴⁸

The federal government responded to these requests by directing Buckingham Smith to undertake a survey of the Everglades region.⁴⁹ The report of Buckingham Smith submitted June 1, 1848, is significant not only because it concluded that drainage of the area was practicable

⁴⁸Everglades of Florida Acts, Reports and Other Papers, State and National, Relating to the Everglades of Florida and Their Reclamation, S. Doc. No. 89, 62nd Cong., 1st Sess., 35 (1911) [hereinafter cited as S. Doc. No. 89]. A Resolution was passed by the Legislature of Florida, approved January 6, 1848, to request Congress to grant to the State of Florida "all of said lands lying south of Carlose Hatchee River and of the northern shore of Lake Okeechobee, and between the Gulf of Mexico and the Atlantic Ocean," on condition that the State would drain them and apply the proceeds of the sale thereof, after defraying the expense of draining, to purposes of education [S. Doc. No. 89, at 39].

⁴⁹Id. at 37.

but also because it expressed a policy and value system which has prevailed until very recently.

Smith briefly discussed the "faint tradition that the draining of the Everglades was contemplated and, indeed, undertaken a century or more since by either the Spanish Government or an association of Spanish subjects in Cuba . . ." and the evidence of such attempts. He proceeded to describe the hydrology and ecology of the region. He recognized that "Lake Okeechobee is the reservoir of the waters of the Kissimee River . . ." and that "the Everglades extend southwardly from Lake Okeechobee . . . and their waters move in the same course. They have their origin in the copious rains which fall in that latitude . . . and in the overflow of Lake Okeechobee through swamps between it and the Everglades."⁵⁰ Smith commented that the ". . . Big Cypress Swamp, which contains several hundred thousand acres of land, now useless to civilized man for any purpose . . . can only be made valuable by draining the Everglades," and concluded that "from the character of its connection with the Glades in many places . . . [the Big Cypress] may be considered a part of them. Several streams running into the Gulf have their sources in this swamp."⁵¹

⁵⁰Id. at 46.

⁵¹Id. at 47.

Smith's description of the region is noteworthy and significant for the sensitivity he manifested but also for the priorities he expressed. He commented that:

The appearance of the interior of the Everglades is unlike that of any region of which I have ever heard, and certainly it is in some respects the most remarkable on this continent.

Imagine a vast lake of fresh water extending in every direction from shore to shore beyond the reach of human vision, ordinarily unruffled by a ripple on its surface, studded with thousands of islands of various sizes. . . . The water is pure and limpid and almost imperceptibly moves, not in partial currents, but, as it seems, in a mass, silently and slowly to the southward. The bottom of the lake at the distance of from 3 to 6 feet is covered with a deposit of decayed vegetable substance, the accumulated product of ages. . . . The flexible grass bending gently to the breeze protects the waters from its influence. Lilies and other aquatic flowers of every variety and hue are to be seen on every side, in pleasant contrast with the pale green of the saw grass, and as you draw near an island the beauty of the scene is increased by the rich foliage and blooming flowers of the wild myrtle and the honeysuckle. . . . The profound and wild solitude of the place, the solemn silence that pervades it, unless broken by the splashing of a paddle of the canoe or light batteau, with which only can you traverse the Pahayokee, or by the voices of your "compagnons du voyage," add to awakened and excited curiosity feelings bordering on awe. No human being, civilized or savage, inhabits the secluded interior of the Glades. . . . Except for the occasional flight of an eagle or a bittern, startled by the strange invaders of their privacy, or for a view of the fishes in the shallow waters gliding swiftly from your boat as it goes near to them, your eye would not rest on living thing abiding in this wilderness of "grass waters," shrubbery, and flowers. Reflections upon the past history of the region around you, unbidden, force themselves upon the visitor to the interior of the Glades. . . . The effect of such visit to the Pahayokee upon a person of romantic imagination and who indulges his fancies on such subjects, it may be presumed, would be somewhat poetic. But if the visitor is

a man of practical, utilitarian turn of thought, the first and the abiding impression is the utter worthlessness to civilized man, in its present condition, for any useful or practical object, of the entire region. A solitary inducement can not now be offered to a decent white man to settle in the interior of the Everglades. . . .⁵²

Smith concluded that drainage of the Everglades from five feet was practicable and would

. . . reclaim, for the profitable cultivation of coffee, sugar, tropical fruits, and other productions of tropical climates, large tracts of the present subaqueous soil of the basin . . . or for the successful raising of cotton, corn, rice, and tobacco.

If the large quantities of lemons, limes, oranges, bananas, plantains, figs . . . now imported, at high prices, from the West Indies and elsewhere, could be supplied . . . from this region, it would be of not trifling advantage to the whole country. . . .

. . . no one of sound moral judgment will, it is presumed, deny that the increase of the agricultural resources, and the promotion of the agricultural interests of a people already politically free, is the very highest service that can be rendered them, and most conducive to the preservation of their independence, prosperity, and happiness.

Whether the undertaking which, if it succeeds as hoped, promises to be so eminently beneficial to the country should not be commenced forthwith, I submit to your patriotic and enlightened consideration. In my judgment the experiment is worth a trial.⁵³

⁵²Id. at 51-52. [Emphasis added.]

⁵³Id. at 50-54. Letters from Gen. Thomas S. Jesup to Hon. J. D. Westcott, Jr., February 12, 1848 and from Gen. William S. Harney to Buckingham Smith, January 23, 1848, suggested that drainage of the Everglades region would facilitate the settlement and support of the numerous population necessary to support fortifications and war efforts

Congress apparently shared Smith's view that the experiment was worth a trial. It responded to requests from Florida, Louisiana, Arkansas, and other states for the swamp and overflowed lands within their respective boundaries with the passage on September 28, 1850 of the "Swamp and Overflowed Lands Act," "An Act to enable the State of Arkansas and other States to reclaim the 'Swamp Lands' within their limits."⁵⁴ The Act granted to the State all of the then unsold swamp and overflowed lands in the state, the fee simple to said lands to vest in the state, upon patents issued by the federal government and provided that:

. . . the proceeds of said lands, whether from sale or by direct appropriation in kind, shall be applied, exclusively, as far as necessary, to the purpose of reclaiming said lands by means of the levees and drains aforesaid.⁵⁵

The State of Florida received patents under this grant to more than 20,000,000 acres of swamp and overflowed lands, among which were the Everglades.

The State of Florida accepted the grant of swamp and overflowed lands by legislation which created a "board of internal improvement for the State of Florida" consisting of the governor, attorney general, treasurer,

to protect commerce and communication between the Atlantic and the Gulf of Mexico and secure the south Florida coast in times of war. [S. Doc. No. 89, at 56-57.].

⁵⁴Ch. 84, 9 U.S. Stats. 519.

⁵⁵Id. § 2.

comptroller and other State officials.⁵⁶ The membership of the board was modified in 1855 in an act expressing policy which remains essentially intact to this day.⁵⁷ That act vested in the governor of the state and four other state officers, in trust, so much as remained unsold of the five hundred thousand acres of land granted by the act of Congress of September 4, 1841 and all the swamp land or lands subject to overflow granted to the state by the act of Congress of September 28, 1850, together with the proceeds of sales thereof, as a distinct and separate fund, to be called the internal improvement fund of the State of Florida. A substantially identical provision now vests these lands, in trust, in a board of seven trustees: the governor, the secretary of state, the attorney general, the comptroller, the state treasurer, the commissioner of education, the commissioner of agriculture and their successors in office.⁵⁸

The history of the Board of Trustees of the Internal Improvement Fund during its first twenty-five years of existence is far from impressive in accomplishing its goals of "improvement." Section 2 of the act directed that the proceeds from the sale of lands of the fund be used to

⁵⁶Fla. Stat., No. 21, Ch. 332, § 3 (1851).

⁵⁷Fla. Stat., No. 1, Ch. 610 (1855).

⁵⁸Fla. Stat., §§ 253.01, .02, et seq. (1969).

pay the interest "as it may become due on the bonds to be issued by" railroad companies under the authority of the act. Sales of lands in the internal improvement fund by the trustees did not produce sufficient revenue to pay interest on the bonds issued by railroad companies prior to and during the Civil War. Depressed conditions during that period resulted in the internal improvement fund becoming greatly indebted to holders of interest coupons due on the outstanding bonds.

To relieve the fund of its indebtedness and to encourage the development of the state, the trustees, in 1881, negotiated a contract with Hamilton Disston for drainage to achieve the permanent lowering of Lake Okeechobee and lakes in the headwaters of the Kissimee River, as well as lowering of the water levels in the Everglades along the southern rim of the lake. The original contract provided that the trustees would deed the alternate sections of land "reclaimed and rendered fit for cultivation" by drainage.⁵⁹ The value of the work accomplished and the amount of land successfully drained became a matter of much public discussion and criticism.⁶⁰ Compromises resulted in the sale of some 4,000,000 acres of the swamp and overflowed lands for \$1,000,000 to Disston.⁶¹ This investment, twice the

⁵⁹S. Doc. No. 89 [supra n. 48], at 20-21.

⁶⁰Id. at 84.

⁶¹Id. at 149-50.

total cost estimated by Smith in his influential report, sufficed to permit the trustees to pay the debt on bonds issued by railroad companies. Disston died in 1896 without successfully draining the Everglades but the completed channel to the Caloosahatchee River represents the first reduction in natural flow to what was to become the Everglades National Park. A publication of the Central and Southern Florida Flood Control District, itself a controversial project discussed in a subsequent chapter, comments that although the Disston effort did

. . . not accomplish all that was expected . . . it was the first large scale project in the overflowed areas of Central and South Florida. . . . It certainly proved that drainage of the area was a bigger and more expensive job than anyone had speculated, and that water problems could not be solved simply by drainage. Probably Disston's historical significance lies just as much in that he broke the stalemate of the Internal Improvement Fund and thereby opened the development of Central and South Florida.⁶²

The Leopold Report notes that:

By 1905, it was apparent that efforts to drain and reclaim the lands, under the jurisdiction of the trustees since 1855, were in essence ineffectual, if not a total failure.⁶³

The election of N. B. Broward as governor and president of the Board of Trustees with a pledge to drain the lands, resulted in the creation of the Board of Drainage

⁶²Central and Southern Florida Flood Control District, *Eight Years of Progress, 1949-1957*, 8 (1957).

⁶³Leopold Report [supra n. 6], at 61.

Commissioners consisting of the same state officers as the Board of Trustees. The commissioners were empowered to establish drainage districts and were authorized to exercise the right of eminent domain in the condemnation of lands in furtherance of drainage operations.⁶⁴

Controversies regarding methods of drainage during this period and accusations that the authorities did not have sufficient technical information regarding the feasibility of the drainage to justify a special assessment and expenditure of public money led state officials to apply to the Secretary of Agriculture for assistance and advice regarding the drainage of the Everglades. A report on the drainage of the Everglades was submitted by the U.S. Department of Agriculture in June, 1909.⁶⁵ It concluded that drainage of the land by means of gravity canals and controlling gates was feasible and recommended a system of canals from Lake Okeechobee southeasterly to the Atlantic Ocean to lower the water level and to improve navigation to the lake.⁶⁶ Following this report, the trustees (Everglades Drainage District Commissioners) undertook drainage operations. The Hillsborough River, North New River, and Miami River were extended into the

⁶⁴Fla. Stat. § 5377 (1905).

⁶⁵S. Doc. No. 89 [supra n. 48], at 140.

⁶⁶Id. at 180.

Everglades and connected with Lake Okeechobee.⁶⁷ The West Palm Beach and St. Lucie Canals were dug from the lake to tidewater and effectively intercepted or reduced the normal southward flow of surface water and directed it to the Atlantic Ocean. Levees around the southern perimeter of Lake Okeechobee, constructed between 1921 and 1926, further modified the traditional water flow. It was during this period also that the Florida Legislature passed a drainage district law that made provision for the establishment and creation of drainage districts by private citizens upon petition to a circuit court.⁶⁸ This law, substantially intact, continues in force,⁶⁹ and is the subject of discussion in subsequent chapters.

3. Flood Control

Waters of Lake Okeechobee were driven over Moore Haven and the Lake Okeechobee area by the hurricane of 1926, causing property damage and large loss of life. A similar but more destructive storm in 1928 caused wind-driven waters of Lake Okeechobee to overflow the northern and southern shores and resulted in extensive property

⁶⁷Comprehensive Report on Central and Southern Florida for Flood Control and Other Purposes, H. R. No. 643, 80th Cong., 2nd Sess. 30 (1948), at 193. The report indicates expenditures by the Everglades Drainage District had totalled \$18 million by 1948 [hereinafter cited as H. R. Doc. No. 643].

⁶⁸Fla. Stat., Ch. 6458 (1913).

⁶⁹Fla. Stat., § 298 (1969).

damage and the loss of some 2,300 lives. The poorly constructed levees failed to withstand the wind tides that these storms generated and drainage canals were ineffective. The Florida Legislature created the Okeechobee Flood Control District in 1929, adding flood control to the original drainage and "reclamation" purposes of state water "management" efforts and authorizing the district to receive funds and cooperate with the federal government.⁷⁰ The River and Harbor Act of July 3, 1930⁷¹ authorized federal activity to construct a navigable channel across the state and to control flood waters of Lake Okeechobee.

Maloney notes that work after 1930 was increasingly for flood control rather than drainage purposes. The extreme dry spells of subsequent years posed problems with which the single purpose flood control projects could not cope. Drainage projects emptied water into the Atlantic Ocean and contributed to already severe water shortages. Peat soils of the Everglades dried out and became unsuitable for agriculture and often burned. Problems of salt-water intrusion into wells providing drinking water arose.

Rain water, along with water that had previously seeped south of Lake Okeechobee and the Everglades

⁷⁰ Fla. Laws, Ch. 13711 (1949).

⁷¹ 46 Stat. 925.

had maintained the ground water level of the coastal areas which in turn had prevented salt-water intrusion. But now this water was increasingly being intercepted and drained into the sea before it reached the southern coastal areas. The result was that salt water began to intrude into the wells of the coastal cities.⁷²

In 1947 the weather went to the other extreme and much of the area suffered extensive flood damage to life and property.⁷³ The existing water "management" works were, manifestly, not adequate for controlled drainage and water conservation during dry periods nor for efficient removal of excessive water during floods. It was recognized that a new approach was needed if central and southern Florida were to grow and develop along the lines proposed. Public hearings were held by the Jacksonville District Office of the Corps of Engineers throughout the area in an effort to develop a comprehensive plan for multipurpose development of water resources of the watershed and a report of the District Engineer was submitted to the Congress.⁷⁴ The report proposed an elaborate system to secure flood protection and water control as well as navigation improvement, preservation of fish and wildlife, improved water supply by virtue of conservation areas,

⁷²F. Maloney, S. Plager, and F. Baldwin, Jr., Water Law and Administration, The Florida Experience, 298 (1968). This excellent study contains a wealth of information on Florida water law and serves as the basis of much of the discussion which follows.

⁷³H. R. Doc. No. 643 [supra n. 67], at 26-27.

⁷⁴H. R. Doc. No. 643 [supra n. 67].

reduction of salt-water intrusion and recreational benefits. This plan was adopted by Congress in the Flood Control Act of 1948,⁷⁵ with an initial appropriation of \$16.3 million⁷⁶ and cooperation with the State of Florida. The Florida Legislature authorized the creation of flood control districts to "cooperate with the United States in the manner provided by Congress for flood control, reclamation, conservation and allied purposes . . ."⁷⁷ and, in 1949, created the Central and Southern Florida Flood Control District as a public corporation.⁷⁸

4. Water "Management" in the Big Cypress Swamp

In addition to water control works in the eastern and central portions of the peninsula, the Big Cypress watershed has been affected by drainage operations. Figure I-3⁷⁹ shows areas platted for development in the Big Cypress. The north-south road from Everglades City to Immokalee, completed in 1926, and the Tamiami Trail crossing the peninsula from Miami and completed in 1928, were constructed from borrow material and the borrow pits serve

⁷⁵62 Stat. 1175 (1948).

⁷⁶Id. § 203.

⁷⁷Fla. Laws, Ch. 25209 (1949).

⁷⁸Fla. Laws, Ch. 25270 (1949).

⁷⁹Adapted from Geological Survey Report [supra n. 17], at 26.

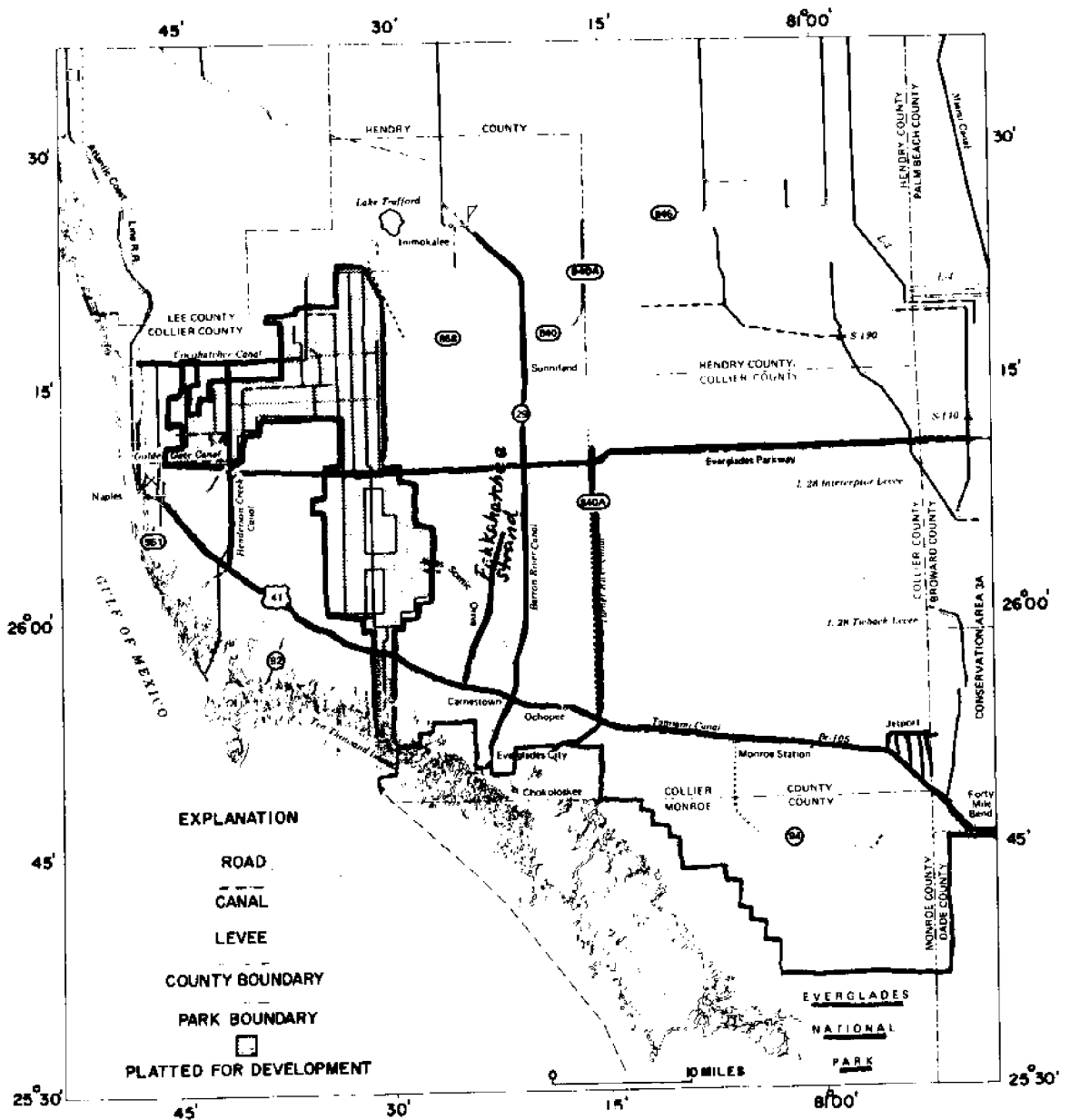


Figure I-3. Areas Platted for Development in the Big Cypress Swamp.

as canals. The north-south Barron River Canal resulting from construction of the Everglades-Immokalee Road (Road 29) serves as a major drainage canal. The Tamiami Canal, running east-west, intercepts water as it flows southward and distributes it through culverts along the Trail. Drainage and diversion of impure waters also resulted from construction of the Turner River Canal to provide fill for Road 840A.

Recent state and federal drainage operations have further modified the traditional water flow. The completion of Levee 28 on the western boundary of Conservation Area 3A in 1963, completion of a tieback canal and levee in 1965 and completion of Levee 28 interceptor canal in 1967 directs the flow of surface waters into Conservation Area 3 of the Central and Southern Florida Flood Control District. The Everglades Parkway (Alligator Alley) was completed in 1967 and extends eastward from Naples to the Fort Lauderdale area, crossing the Big Cypress and Conservation Area 3.

Private development in the Big Cypress has necessitated drainage. Development of the 188 square mile Golden Gate Estates area in western Collier County, begun in the 1960's and continuing at the time of this writing, has involved digging canals to drain the area. Gulf American Land Corporation, developers of Golden Gate Estates, acquired 105 square miles of land immediately west of Road 29 and south of Everglades Parkway in 1966. This

tract includes the Fakahatchee Strand, a major natural drainage slough containing unique wildlife. Portions of it are the subject of current negotiations for sale by the developers and the State of Florida.⁸⁰

The present training facility and the proposed jetport entail major drainage operations. This subject is discussed in a later chapter, as is the proposed Gum Slough Drainage District, the petition for which has recently been denied by the Circuit Court in Monroe County. A proposal by the Eastern Collier County Land Owners Association Committee to drain and develop the eastern portion of Collier County, build the jetport, add the entire area to the Central and Southern Florida Flood Control District and construct a highway across the Everglades National Park to Key West is currently under discussion.⁸¹

⁸⁰An article in The Miami Herald notes that Gulf American Land Corporation bought up land in the Fakahatchee Strand at \$100 an acre in 1966, reselling 24,000 acres for up to \$2,500 per acre. Operations by its successor, GAC, Inc., to drain Golden Gates Estates of surface water, involved construction of a canal along the western border of the Strand. The company has offered to sell the State of Florida 20,000 acres of the Strand for \$2.5 million. Private investors would retain 30,000 acres and GAC would retain 13,000 acres of the original 63,000 acre purchase in the area. The Miami Herald, Sunday, January 10, 1971, at 1B, 2B.

⁸¹Copies of the brochure describing the proposal are available from Mrs. Isabelle Coffing, Treasurer, P. O. Box 3589, Bright Station, Hialeah, Florida 33013, 2 for \$1.00.

D. Effects of Water "Management" Systems

Drainage and flood control of a vast area of central and southern Florida have been accomplished, although at a far greater cost than was originally estimated. The unexpected costs arose not only from the direct monetary expenditure for water control projects but also as a result of unexpected impacts upon other values which were or are to be necessarily foregone if the drainage and development of this area is accomplished. The purpose of this section is to indicate those impacts which have been identified and which are generally considered to be adverse although they are sometimes accepted and regarded as inevitable.

The effects discussed below and others are the necessary result of misguided human activities within an environment which was and is not suitable to support those activities. Among the most significant of these environmental characteristics is southern Florida's capricious hydrology which renders the water supply totally dependent upon rainfall. Drainage of lands and diversion of traditional paths of water flow created dependence upon Lake Okeechobee for water. Yet Lake Okeechobee can serve only as a reservoir and the quantity of water it retains is determined entirely by the amount of rainfall in the area. Davis notes that:

Lake Okeechobee is essentially a wet weather lake in the sense that the quantity of water in

the lake basin depends almost entirely upon the weather conditions of its watershed and lake area. For this reason the lake levels would, under natural conditions, fluctuate widely because the rainfall and evaporation vary a great deal from season to season and year to year.⁸²

Tabb notes that "this aspect of the rainfall pattern of the Everglades Park region has been largely overlooked or ignored in water planning for southeastern Florida in the past."⁸³

A second and closely related crucial environmental factor which was not adequately considered in water planning for southern Florida was the existence of a southerly flow of water from the Lake Okeechobee area to Florida Bay and the Gulf of Mexico. Drainage and diversion of water into the sea produced the same result as lack of rainfall--no water reached lands and estuaries downstream of the water control facility.

These two factors of a limited water supply and dependence upon a cyclic water flow to deliver that supply and sustain life, combined with a high rate of evapotranspiration, rendered any attempts to modify or "control" the watersheds and system hazardous. Yet the possible adverse effects of such tampering were only rarely considered in the rush to reclaim and develop.⁸⁴

⁸²Quoted in D. Tabb [supra n. 3], at 15.

⁸³Id. at 10.

⁸⁴See Message of Gov. W. S. Jennings to the Legislature of Florida Relative to Reclamation of Everglades, April 7, 1903, expressing such concern and Message

Failure to consider these and other factors produced significant adverse effects upon the general ecosystem of southern Florida. Thomas comments that:

A naturally evolving ecosystem undergoes successional changes which . . . "are orderly processes of community development" and which "culminate in a stabilized ecosystem. . . ." In a mature ecosystem the energy flow due to availability of natural resources is self-regulated. This type of orderly ecological succession is influenced either by importing nutrients into the system from without, such as is done by fertilizers . . . or by removing such resources from within the system. . . .

The colonization of Southern Florida by man has occurred only over the last century (since 1888) and, therefore its influence upon the natural ecological environment has been well documented. One might indeed say that contrary to natural ecosystem development the result of man's influence has been that of ecosystem destruction. Man's penetration of this virgin territory has, through modifications to the main natural resource (water), accelerated the rate of ecological change to a speed approximately 100 times greater than would have occurred under a natural evolving system.⁸⁵

Tabb describes the effects of drainage:

The development of the Everglades involving opening up the peat and muck deposits upon which most of the drainage activity was centered, had somewhat the same effect as killing the goose that laid the golden egg. Parker (1960), looking back over some 50 years of drainage in this region, said: "It is doubtful that the drainage enthusiasts ever envisioned that, among other results of their operations, they would induce or cause: (1) shrinkage, compaction, oxidation, burning and general subsidence of the organic soils. This loss is reported . . . to be as much as 5 feet over extensive

of Gov. N. B. Broward to the Legislature of Florida Relative to Reclamation of Everglades, May 3, 1905, dismissing such doubts as unfounded, in S. Doc. No. 89 [supra n. 48], at 84-86, 100-01.

⁸⁵T. Thomas [supra n. 8], at 2.

cultivated areas. In some places, where the organic soils were a couple of feet or less in thickness they have disappeared completely. (2) Development of wide, shallow 'subsidence valleys' along each drainage canal in the muck and peat soils . . . (3) Reduce the original capacity of the canals, thus contributing to floods, slowing down of runoff, and general canal inefficiency. This resulted from soil compaction and burning, thus lowering the land surface nearer the canals and reducing the vertical heights of the banks. . . . (4) Increase frost damage, which formerly had been held in check by the large body of water in the Everglades. . . . (5) Cessation of the process that had built up the muck and peat soils in the first place. (6) Changed ecological conditions seriously affecting wildlife of the drained areas. This has resulted in species migration and the extinction or near extinction of others, one of these is the Everglades Kite, now a rarity because of the drainage of the swamp with resultant destruction of a certain species of freshwater snail upon which the kite feeds solely.⁸⁶

The nature and extent of some of these effects upon the natural environment and man as a part of that environment, are discussed below. These effects are considered with regard to the natural environment as well as the goals sought by those who pursued drainage and water control measures and thereby caused the problems.

1. Soil Subsidence

The most egregious and certainly the most palpable effect of drainage and diversion of water in southern Florida has been the subsidence of the rich peat soils which had been so attractive to observers of the pre-drainage Everglades region.

⁸⁶D. Tabb [supra n. 3], at 21.

Davis comments that:

In considering the vegetation we noted the importance of a flood or hydroperiod for the proper growth of the saw-grass marshes. . . . Saw-grass and its associated plants grow best where soils are wet most of the year, and if soil water levels recede more than a foot below the surface the marsh growth decreases. . . . Moreover, without the continuous vigorous growth of the marsh plants, the organic soils deteriorate so that if no overflow persists for a long time the marsh growth becomes less dense. The extra water added to the Everglades nearly every year from Lake Okeechobee was, therefore, one of the conditions that made the organic soils possible. Whatever the amount of water that formerly overflowed from the lake, it is certain that there is less now, and this condition has been mainly responsible for soil subsidence and other soil loss, the deterioration of the marsh vegetation and probably the loss of some of the wildlife.⁸⁷

Writing in 1958, Johnson provides the reader with a clear image of the extent of this subsidence.

On the same surveys of the early 1920's, the plane upon which he walked while surveying in the muck and peat areas is now about four feet above the present land surface at the same location. The plane upon which Osceola (war chief of the Seminole Indians) walked here would be well above his head if standing in the same location today.⁸⁸

Tabb notes that:

It became clear as early as 1915 . . . that indiscriminate draining of land could cause loss of soil, but their recommendations were either ignored or developers were unable to lower water levels in adjacent undeveloped drained land and simultaneously maintain high levels in adjacent undeveloped land. The result was a general lowering of organic soil levels along drainage canals and surrounding drained agricultural lands; this has continued to the present.⁸⁹

⁸⁷Quoted in D. Tabb [supra n. 3], at 14.

⁸⁸Id. at 16.

⁸⁹Id. at 20.

He comments that:

It is disappointing, but not surprising in light of our past performances in the fields of resource exploitation, that the warnings of conservationists have been ignored or overlooked throughout the course of Everglades development. The consequences of drainage on the organic soils of the Everglades might have been seen and proper control measures instituted earlier if, for example, the words of Dachnowski-Stokes (1939) had been heeded. "General experience with the reclamation of such areas, peat deposits such as those of the Everglades, for agriculture, reflect a general lack of success. Overdrainage has been the cause of many failures involving changes in water level of adjacent mineral soils, and disastrous peat fires have laid bare a discouraging acreage of sand and rock. To achieve the best use of such areas, the restoration of former water levels is not only desirable and economically justifiable but also necessary from the viewpoint of a national water policy. Without some control of drains and fluctuating water levels, the re-establishment of vegetation native to these areas takes place slowly and irregularly. If the original plant cover is totally destroyed by plowing, fire or overdrainage, a rapid evaporation from the exposed surface material may bring about excessive concentrations of soluble salts and thus intensify difficulties. If the area of peat is subsequently abandoned, a variety of annuals and weeds that are hosts to insects injurious to crops may soon form a complete cover."⁹⁰

Thomas concludes that the upper six feet of peat in the Everglades took approximately 4,000 years to be deposited and notes that the destruction of six feet of peat in the Everglades over the past 40 years was at a rate 100 times faster than its natural deposition. He attributes this destruction directly to the lowering of the water table in the region by some six feet through drainage and water control

⁹⁰Id. at 22.

structures.⁹¹

It is estimated that soil in the Everglades agricultural area is disappearing at the rate of one inch per year although some feel that the rate of subsidence is only 12 inches over a period of 30 years.⁹² In either case, the peat of the agricultural area is doomed. New peat is not being deposited and the depth of the soil is a function of the depth of the water table which is being constantly lowered by drainage operations. Agriculture is using up the soil in an exploitative process that is more nearly akin to mining than it is to farming.⁹³ The time will come when the depth of the peat soils will be too shallow to support most crops. The Leopold Report notes that:

In 1912, 95% of this organic soil was over 5 feet in depth while today only about 45% is that deep. It is estimated that by the year 2000 only about 12% will be over 3 feet in depth and 45% less than 1 foot in depth.⁹⁴

The struggle to "reclaim" the Everglades has secured a very temporary agricultural area which will soon be dry land, as valueless to the "reclaimers" for their purposes as were the swamp and overflowed lands. But the cost of securing the

⁹¹T. Thomas [supra n. 8] at 70.

⁹²Statement of John C. Stephens, South East Watershed Research Center, Athens, Georgia at the Everglades Conference at Miami, February 26, 1970.

⁹³Statement of Gary Soucie, Friends of the Earth, at the Everglades Conference at Miami, February 28, 1970.

⁹⁴Leopold Report [supra n. 6], at 64.

value of fertile soils for a relatively short period and for a relatively small group has been borne by society and the environment as a whole. Values have been foregone which would have inured to the benefit of society without any investment except forbearance and maintenance of the natural ecosystem.

2. Water Shortages

Intensive development and associated increased populations in southern Florida resulted in an increased demand for municipal and agricultural water supply. The drainage and diversion measures which rendered such growth possible also served to dispose of the water which was necessary to sustain the developed areas. The fresh-water from southern Florida's seasonal rainfall recharges aquifers and fills Lake Okeechobee. It must then serve as the water supply during an extended dry period. Drainage and diversion of surface water from wetlands removes water which previously recharged the aquifer and maintained the fresh-water table.

Water shortages are becoming increasingly severe national problems.⁹⁵ The cyclic nature of southern Florida rainfall, producing alternating periods of flood and drought, seasonally and over a period of years, combined with drainage operations, have made it no exception to this national trend. If unchecked, the population of southern Florida will continue

⁹⁵Staff of Senate Committee on National Water Resources, Water Supply and Demand, 86th Cong., 2nd Sess. (1960).

to grow and decision-makers accept the projections as if they were accomplished or at least ineluctable facts,⁹⁶ and thereby assure the realization of the predictions.

The severe drought of this year has dramatically illustrated the problems posed by human activities and demands which are simultaneously modifying and yet totally dependent upon a functioning and delicate natural aquatic ecosystem. An article in The Miami Herald⁹⁷ describes the complex problems and conflicting policy judgments:

While tourists tan on South Florida's sun-baked beaches, state officials, who annually spend millions to attract the northerners here, are praying for rain.

All of South Florida--the urban Gold Coast, the rich, flat farmlands, and the usually water-soaked Everglades--is teetering on the brink of a drought, the third in less than 10 years.

"Conditions are bad and getting worse; unless we get some rainfall within two and a half months, the bucket is going to be dry," says Robert W. Padrick, chairman of the Central and Southern Florida Flood Control District.

The "bucket," is Lake Okeechobee. . . . It is the chief fresh water reservoir for the area.

Indirectly, the lake also influences the water available to the nearly 1.5 million residents of Greater Miami.

The lake and its connecting canals recharge, or refill, an underground aquifer, a porous layer of rock that is Miami's major source of drinking water (Biscayne Aquifer).

. . . .

⁹⁶Report of the Environmental Study Group [supra n. 1], at 3; Geological Survey Report [supra n. 17], at 77-78.

⁹⁷The Miami Herald, Monday, December 28, 1970, at 1C, 4C.

Dropping at the rate of half a foot a month during the dry season, the water from the lake may soon be too low to overflow into the network of canals that provide South Florida's water for crops, people and the preservation of the . . . Everglades National Park.

"We may be facing the most critical drought in Florida history," Padrick says.

There is little, at this time of the year, that anyone can do to alter the course of nature.

Ironically, the water that could have made the difference fell during last year's dry season.

Faced with abnormal amounts of rainfall, state officials let the accumulated water flow quickly into the ocean through the intricate network of canals.

They are convinced that the action saved thousands of homes from flood damage.

But the action also emptied some of the precious fresh water from the shallow lake.

State officials are asking voluntary cooperation from farmers and others who use large amounts of water. They are concerned that the critically dry months of April and early May may force them to make compliance mandatory.

By the time drought-breaking rains fell in June the water in Lake Okeechobee had fallen to its lowest level in twenty-one years, water in canals was four feet below normal and the Conservation Areas, shown in Figure I-4, Location of Water Conservation Areas,⁹⁸ were dry except for a few puddles. The Executive Director of the Central and Southern Florida Flood Control District termed the drought the worst in twenty-one years of the history of the District,⁹⁹ and both wildlife and people suffered the effects of water

⁹⁸The Miami Herald, Sunday, April 28, 1971, at 4N.

⁹⁹The Miami Herald, Friday, April 16, 1971, at 24A.

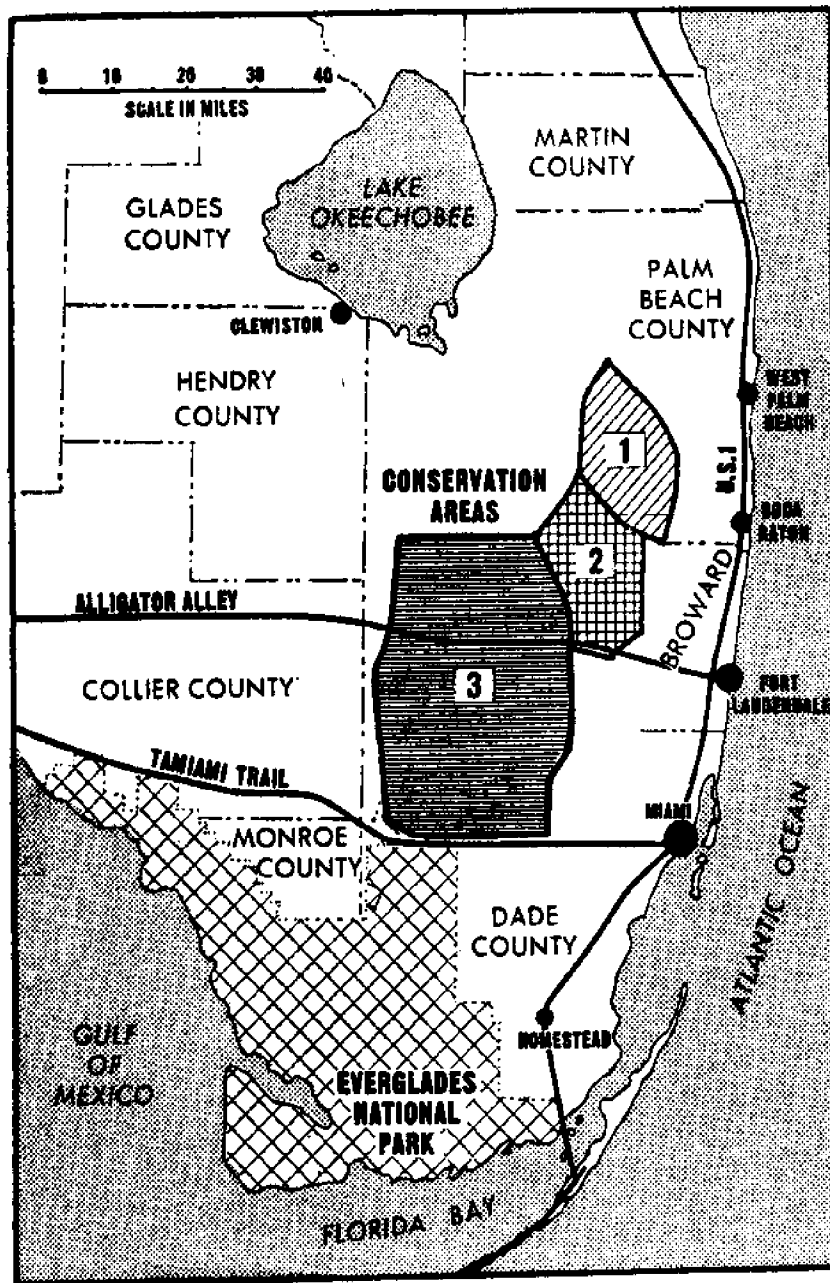


Figure I-4. Location of Water Conservation Areas

shortage. Deer in the Conservation Areas which were drowned by flood waters the previous summer died of thirst,¹⁰⁰ while cattle of the Seminole Indians in the Big Cypress Swamp died of thirst and pasture lands in Dade, Broward and Collier counties were in critically poor condition as a result of the 80% rain deficiency.¹⁰¹ Wildlife in the Everglades National Park died¹⁰² and fires burned out of control over some 20,000 acres of sawgrass in the Everglades and Big Cypress Swamp region, producing smoke which burned the eyes, reduced visibility and caused a loss of business in tourist centers in Miami.¹⁰³ Public use of the Conservation Areas was curtailed because of the threat of fire.¹⁰⁴ Salt-water intruded into several wells supplying municipal drinking water and threatened others.¹⁰⁵ Residents of the affected area covering 4,800 square miles were requested to reduce water consumption voluntarily and were threatened with mandatory rationing measures.¹⁰⁶

¹⁰⁰The Miami Herald, Friday, April 9, 1971, at 1A.

¹⁰¹The Miami Herald, Sunday, May 2, 1971, at 1A, 32A.

¹⁰²The Miami Herald, Wednesday, March 17, 1971, at 2B; Monday, March 22, 1971, at 1A, 20A.

¹⁰³The Miami Herald, Thursday, March 25, 1971, at 1A, 32A; Monday, April 5, 1971, at 12A; Sunday, April 11, 1971, at 1C.

¹⁰⁴The Miami Herald, Monday, April 5, 1971, at 12A.

¹⁰⁵The Miami Herald, Saturday, May 1, 1971, at 2A; Sunday, May 16, 1971, at 1C.

¹⁰⁶The Miami Herald, Friday, April 16, 1971, at 24A; Tuesday, May 4, 1971, at 1B, 2B.

The response of decision makers to the threatened crisis typically missed the point and manifested a faith in the feasibility of technological solutions and a refusal to address the real cause of the problems. State and federal agencies conducted a cooperative effort to seed clouds and produce rain. These efforts met with only limited success because high-topped billowing clouds which are necessary for such operations are very rare during the dry season.¹⁰⁷

The United States Army Corps of Engineers had previously expressed faith in its form of technological solution to the water problems of southern Florida. Its proposal for a bigger and better machine, in the form of an expanded water drainage and storage project, is contained in a report in which the District Engineer found that the project authorized in 1968 would not meet the water resource needs of the area after 1976.¹⁰⁸ The Report states that:

The 1961-65 drought showed that additional water and adequate means for delivery to the park were required. The problem involved the necessity to determine the needs of the park for water on a continuing basis and its optimum distribution during the year; at a time when the competition for water by all other water users was becoming critical. As the urban and agricultural use of water increased and the water needs of the park became better understood, the need for modifications of the project design and operation

¹⁰⁷The Miami Herald, Tuesday, December 1, 1970, at 1B, 2B; Friday, April 16, 1971, at 24A.

¹⁰⁸U.S. Dept. of the Army, Jacksonville Dist., Corps of Engineers, Water Resources for Central and Southern Florida, Main Report, Serial No. 198 (1968).

to increase its capability to supply water became apparent. Current demands for water already exceed those projected for the year 2020 in the original planning of the Central and Southern Florida Project. Population projections for the east coast area in the year 2000 are now almost triple those first predicted. Current estimates of 2020 demands, including park estimates of needs, are now more than double the original estimates. There are impending shortages of water to meet projected demands fully at all times. The days of plentiful water and indiscriminate use cannot be sustained. The problems of conflicting demands for water and the restoration and preservation of natural values, while permitting the full expansion of the population and economy, require solution.¹⁰⁹

The response of the corresponding state agency, the Central and Southern Florida Flood Control District, also viewed the problems encountered during the drought as evidence of the need to hasten with the work to complete the flood control and water storage project,¹¹⁰ and an editorial in The Miami Herald comments that:

The present drought will do some good if it impels public officials to get ready for the next one. Water holes and reservoirs should be dug when there's plenty of rain.¹¹¹

Others view the crisis threatened by the severe drought and its effects as dramatic evidence of the need to reverse past policies and practices of drainage and water diversion and begin to reflood and restore the natural watershed of southern Florida.¹¹² It might be

¹⁰⁹Id. at 28, 29.

¹¹⁰The Miami Herald, Sunday, April 25, 1971, at 4N.

¹¹¹The Miami Herald, Saturday, May 1, 1971, at 6A.

¹¹²Statement of Mr. Arthur Marshall, Director, Division of Applied Ecology, Center for Urban Studies,

argued that this year's draught ended too soon. An extension of the drought, resulting in crisis-level water shortages might have served to make more persons aware of the real causes and severity of the problem.

Southwest Florida will face similar if not more severe problems if the hopes of developers and others to drain the Big Cypress watershed achieve fruition. The Big Cypress serves to recharge the aquifer which presently supplies all water for municipal use and irrigation in Naples and the adjacent area,¹¹³ just as Lake Okeechobee and the Everglades watershed recharge the Biscayne Aquifer. The Report of the Environmental Study Group notes that "the shallow aquifer in Collier County is inferior to the Biscayne Aquifer as a source of water for the needs of man,"¹¹⁴ because, among other factors, it has a lower recharge rate from rainfall and its storage capacity per unit volume of aquifer is only about half that of the Biscayne Aquifer.

The Study Group rejects the suggestion that southwest Florida could draw its water from the sea or the deep saline Floridian Aquifer and desalinate it as

University of Miami, in The Miami Herald, Sunday, April 25, 1971, at 1N.

¹¹³ Geological Survey Report [supra n. 17], at 40, 41.

¹¹⁴ Report of the Environmental Study Group [supra n. 1], at 35.

too costly and because desalinization poses thermal, air and waste pollution problems. The possibility that the area could draw its water from the water conservation areas to the east is similarly dismissed because of the fact that the population centers on the east coast are already tapping this inland water supply, "with a projected usage of the entire supply when an East Coast population of four million is reached" and because of the requirements of Everglades National Park for water from this area.¹¹⁵

The Study Group suggested that:

The maximum population that can be sustained by the natural water supply in the southwestern part of the state is considerably less than in the southeastern part of the state; an upper limit of roughly one million people in Collier County may be realistic.¹¹⁶

and that:

Southwest Florida will have to rely on its own resources. The long range perspective makes it evident that the water supply inland from the West Coast, for example, the eastern half of Collier County, will be essential. Extensive drainage of inland Collier County is certain to entail future risks.¹¹⁷

and proposes that a natural water conservation district, including a large portion of the Big Cypress Swamp, be set aside and not drained or otherwise developed or modified.¹¹⁸

¹¹⁵Id. at 39.

¹¹⁶Id. at 36.

¹¹⁷Id. at 39.

¹¹⁸Id. at 39-41.

3. Salt-Water Intrusion

Thomas states that:

Man's colonization of South Florida resulted in modifications of the Kissimmee-Okeechobee-Everglades drainage basin which caused lowering of the fresh water table and permitted the consequent and permanent encroachment of salt water and the establishment of a new equilibrium with subsequent ecological adjustment. This "adjustment" occurred, as previously stated, at a speed approximately 100 times faster than under natural conditions.¹¹⁹

Salt-water intrusion in southern Florida results from the lowering of the water table by drainage.¹²⁰ The Report of the Environmental Study Group explains that:

The essential fact is that sea water is two and one-half percent more dense than fresh water and hence exerts two and one-half percent more pressure at a comparable depth. Sea water literally pushes the fresh water back along a surface where the two come in contact. . . . Thus for an aquifer like the shallow aquifer of Collier County, which is 100 feet thick . . . one will find salt water intruding inland into the aquifer until it reaches a line where the water table has risen to a height of two and one-half feet above sea level. Everywhere between that line and the coast there will be some sea-water intrusion.¹²¹

Salt-water intrusion into the aquifers constitutes pollution of the fresh-water which is already in short supply. The lowering of the fresh-water head on the east coast of Florida by as much as 6 feet has upset the natural equilibrium and caused inland movement of salt-water

¹¹⁹T. Thomas [supra n. 8], at 6.

¹²⁰Id. at 14, 15, 68-70, 73-74.

¹²¹Report of the Environmental Study Group [supra, n. 1] at 36-37.

into the Biscayne Aquifer. The canals which form arms of the sea would, if not controlled, ruin the fresh-water supply of southeastern Florida. This threat was recognized at an early stage of drainage operations.¹²² Water conservation districts were established and expensive salt-water intrusion control structures were installed in the drainage canals to prevent the encroachment of salt water in southeast Florida.¹²³

The situation in southwestern Florida with regard to salt-water intrusion is even more delicate than in Dade County on the east coast. The Report of the Environmental Study Group states that ". . . uncontrolled drainage inland will have dangerous consequences both along the coast and inland," and recommends the establishment of a water conservation district for this reason as well as those discussed in the preceding section.¹²⁴ The Report notes that any inland drainage of the Big Cypress will have two deleterious effects upon the water supply for this region: a reduction in flow through the aquifer and an increase in salt-water contamination of the fresh-water supply. "A double penalty of reduced quantity and quality of water will be the price exacted from the

¹²²T. Thomas [supra n. 7], at 68; D. Tabb [supra n. 3], at 19-29.

¹²³See generally Parker, Geologic and Hydrologic Factors in the Perennial Yield of Biscayne Aquifer, 43 Am. Water Works Assoc. Jour. 817 (1951).

¹²⁴Report of the Environmental Study Group [supra n. 1], at 35.

downstream (coastal) user by the upstream (interior) developer."¹²⁵

4. Human Health Hazards

In addition to the hazards to human health posed by water shortages, the southern Florida interior is a matter of considerable medical concern. The Environmental Study Group notes that:

Dams, man-made lakes, and irrigation, coupled with the absence of predators on adult and larval mosquitos, create new areas for mosquito propagation.¹²⁶

Mosquitos and small animals in the area are capable of transmitting several diseases which constitute serious threats to human health. The Study Group suggests that the small number of reported cases of such diseases is due to the fact that most visitors to the area are not exposed sufficiently to the insect vectors transmitting the diseases and that "this setting would be drastically altered were large numbers of people to live and work in the area."¹²⁷

5. Temperature Modification

Thomas notes that standing surface waters of low-lying areas in southern Florida retain heat and that

¹²⁵Id. at 37.

¹²⁶Id. at 24.

¹²⁷Id. at 25.

a localized "cold spot" south of Lake Okeechobee is possibly the result of the lowered water table in this region. He cites literature discussing increased frost damage which was previously held in check by the large body of surface water in the Everglades.¹²⁸

Everglades National Park Superintendent John Raftery noted that:

Man is bleeding life from Everglades National Park. In the interest of flood control, agriculture, and real estate development, he has constructed an elaborate system of canals, dikes, and levees designed to divert much of this water from its natural course. Drainage has greatly reduced the Everglades' phenomenal productivity, destroying habitat and food supplies for many creatures. Aquatic animals that once found refuge in water holes during the short dry season have diminished; their reservoirs become dry. The million and a half wading birds that nested here 30 years ago now number less than 50,000. Curtailment of water flow has permitted inland intrusions of salt water, reducing estuarine productivity.¹²⁹

The following subsections focus upon the effects of drainage and associated development upon the interrelated ecosystems of the Big Cypress, Everglades, and Everglades National Park.

¹²⁸T. Thomas [supra n. 8], at 82.

¹²⁹J. Raftery, Everglades National Park: The Future, Statement at the 33rd Annual Meeting of the Florida Academy of Sciences, Gainesville, Florida, March 14, 1969.

6. Water Storage in Conservation Areas

Demands for water throughout the year led decision-makers to retain water during the wet seasons in water conservation areas south of Lake Okeechobee. The practice of flooding lands which were previously shallow water marshes has had devastating effects upon the deer inhabiting the marshlands. An article in the New York Times comments that:

The problem is too much water. Whose fault it is is a subject of controversy.

The area in which the deer are dying is called conservation Area 3 by the Florida Game and Fresh water Fish Commission. It is used as a water storage area by the Florida Central and South Flood Control District [sic].

As a result of the millions of gallons of water pumped into the area by the district and of exceptionally heavy rainfall in the latter half of October, the water level is far above normal.

The marsh areas where the deer live and feed are under two to to [sic] five feet of water. This forces the deer to congregate on the small tree islands, called hammocks, that dot the trackless sawgrass flat.

The crowded conditions make the deer easy prey for hunters and promote disease. Competition for food is fierce.¹³⁰

The artificial water conservation areas, canals and pump stations have destroyed the traditional cyclical levels, patterns and periods of water flow which characterized the southern Florida watershed. Rather than recognizing this, the response of Florida's decision-makers was to present the U.S. Senate Subcommittee on

¹³⁰ New York Times, November 30, 1969, at 121.

Flood Control with a resolution urging Congress to authorize and appropriate funds for a study to develop plans for joint protection of wildlife and "water management interests" in the Everglades.¹³¹ There is no indication that the decision-makers yet realize that these "water management interests" cannot be secured jointly with the protection of wildlife and that they are, in most instances, mutually exclusive.

7. Changes in Vegetation

The reduction of fresh-water flow resulting from drainage and diversion of water from the Everglades has resulted in the replacement of the marsh ecosystem with a terrestrial one in some areas. Expanded drainage operations will transform the remaining marshlands.¹³² Significant woody plant encroachment into the sawgrass environment of the Everglades National Park,¹³³ and similar transformations of vegetation in the Big Cypress Swamp¹³⁴ are attributed to the decline in fresh-water

¹³¹Miami News, Saturday, April 10, 1970, at 4A.

¹³²Geological Survey Report [supra n. 17], at 88.

¹³³M. Kolipinski and A. Higer, Some Aspects of the Effects of the Quantity and Quality of Water on Biological Communities in Everglades National Park, U.S. Dept. of Interior, Geological Survey, Water Resources Division (1969).

¹³⁴Federal Water Quality Admin. Report [supra n. 15], at 17.

flow resulting from drainage and diversion of surface water.¹³⁵

8. Changes in the Hydroperiod and Pattern of Flow

The annual wet and dry cycle and attendant inundation and drying of lands is essential to the viability of the ecosystem of southern Florida. The periodicity of water flow (hydroperiod) and its distribution in a sheet flow pattern, has been modified by drainage and diversion operations. The presence of some water is, of course, essential to the life of the diverse aquatic organisms inhabiting the region. But these life forms are delicately balanced and adapted to a natural cyclic presence and absence of water which conventional drainage and diversion methods are unable to simulate. The Leopold Report describes this factor of timing, the hydroperiod, as ". . . the single most significant element of the natural, complex, and highly diverse environment. . . ." ¹³⁶ The cyclic natural sheet flow of water through the Everglades sawgrass and Big Cypress Swamp to the coastal mangrove zone is the source of vital fresh water and also serves as the unifying thread which binds the interacting subsystems

¹³⁵D. Tabb [supra n. 3], at 81; Geological Survey Report [supra n. 17], at 55-63; Leopold Report [supra n. 6], at 31.

¹³⁶Leopold Report [supra n. 6], at 9.

together into the equivalent of a natural tertiary recycling system.¹³⁷ The effects of changes in the hydroperiod and sheet flow pattern of the traditional watershed may be seen and expected to be the result of drainage in two subregions of the environment: (a) the upper wetlands (Everglades, cypress swamp, wet prairies, and sawgrass marsh) and (b) the coastal mangrove zone.

a. The Upper Wetlands

The comments of the United States Geological Survey regarding the Big Cypress region are applicable to the ecosystem of this entire region:

Plants and animals of the Big Cypress depend on the seasonal fluctuation and movement of fresh surface water. In this environment, aquatic foods are produced seasonally. The widespread production of aquatic foods when most of the land is inundated and the subsequent concentration of this food in creeks, sloughs, and ponds as water levels decline in the dry season are most significant in maintaining the rich and varied biota.

Uncontrolled drainage of the Big Cypress would decrease the extent and the duration of fresh-water inundation, thus decreasing production of aquatic food and fish. Populations of the larger fish, reptiles, birds, and mammals that depend upon concentration of fish could be reduced or eliminated.¹³⁸

The relationship between the hydroperiod and the life cycle of organisms inhabiting this region is evidenced by

¹³⁷Dr. Leonard Greenfield, Dept. of Biology, Univ. of Miami, personal communication, June 3, 1971.

¹³⁸Geological Survey Report [supra n. 17], at 83.

the feeding and nesting habits of the wood ibis (stork). Wood ibis feed by groping rather than by sight. Their feeding efficiency depends directly upon the concentration of food items per unit volume of water. They require large quantities of food when nesting and are especially sensitive to changes in water level which determine the concentration of organisms per unit volume. The Leopold Report notes that:

This seasonal wet-dry cycle must coincide with the natural reproductive cycles of the predatory fishes, amphibians, reptiles, birds, and mammals that feed upon small aquatic animals. Otherwise, the reproduction of these larger animals at the top of food chains will fail. Excessively high or low water can cause reproductive failure.¹³⁹

Severe water shortages in the spring of 1965, resulting from drought and "water management" eliminated most survival holes for small aquatic life and recovery of these organisms was slow when the area was flooded again in the summer and fall of 1965. Fish populations did not reach sufficient density to support successful wood ibis nesting in the following dry winter and spring of 1965-66. The wood ibis colonies in Everglades National Park produced only a few young. A less severe drought in the spring of 1966 permitted aquatic organism populations to start from a larger base or "brood stock" in survival holes, build up to much greater densities and support a

¹³⁹Leopold Report [supra n. 6], at 30.

successful nesting in the winter of 1966-67.¹⁴⁰

Drainage of the wetlands has taken its toll. In the early 1900's there were approximately 150,000 wood ibis in Florida. By the year 1959 it was estimated there were some 15,000 birds remaining. In the winter of 1965-66, Everglades National Park biologists counted 5,100 birds in the Park. In December of 1968 only 2,800 were counted in the same area and it is estimated that there are only 7,000 to 10,000 wood storks in the State of Florida today.¹⁴¹ The Leopold Report identifies the wood ibis, the roseate spoonbill, and other birds, as well as the manatee, Florida panther, alligator, and several other species of animals inhabiting this region, as threatened with extinction if drainage operations are expanded. Among these are several rare and endangered species.¹⁴² Birds such as the wood ibis and roseate spoonbill move back and forth between the Big Cypress, Everglades and the Park depending upon their needs and the season. Extensive drainage of areas to the north of the Park eliminates an essential habitat for these organisms¹⁴³

¹⁴⁰Id.

¹⁴¹J. Raftery, Superintendent, Everglades National Park, Adverse Environmental Influences on the Everglades, address to Audubon Society, Ft. Lauderdale, Florida, January 31, 1969.

¹⁴²Leopold Report [supra n. 6], at 87-108.

¹⁴³Geological Survey Report [supra n. 17], at 90.

and cuts off the requisite water supply to sustain them in the Park.¹⁴⁴

b. The Coastal Mangrove Zone

The United States Geological Survey notes that:

. . . the estuarine environment would be affected by changes in water-flow patterns, as fresh-water inflow to the estuaries controls seasonal changes in salinity, a key factor in estuarine ecology.

In general, estuarine species are adaptable to wider ranges of environmental changes than marine or fresh-water organisms are, but they are susceptible to excessive variations in salinity, temperature, or turbidity . . . especially when the variations are rapid. Such variations or changes in the seasonal cycles of the above parameters would adversely affect the nursery function of the water.¹⁴⁵

The Leopold Report clearly states the need to maintain natural water flow to the coastal mangrove zone.

Any construction or development activity in the Big Cypress Swamp which leads to its drainage will alter the hydroperiod in the coastal zone. This would result in faster run-off during the wet season, and an extension of the dry period. Even if the annual volume of run-off passing through the coastal zone is unchanged, the seasonality of flow would be drastically altered.

All of the organisms in the coastal zone are adapted to a long period of brackish water conditions that extends beyond the rainy season. If these conditions do not continue, spawning periods and estuarine nursery activities will be out of phase with the artificially created hydroperiod. The rapid degradation of mangrove detritus that occurs under brackish conditions will also be reduced and the detrital food chain markedly disrupted. With these disruptions, the estuarine and offshore Gulf waters would probably be unable to

¹⁴⁴ D. Tabb [supra n. 3], at 76-77.

¹⁴⁵ Geological Survey Report [supra n. 17], at 83-84.

support the high population levels of aquatic species that they now do.¹⁴⁶

Drainage and diversion of surface water may result in depriving the coastal mangrove zone of fresh-water, increasing the salinity of those waters, or it may result in "slugs" of water being injected into the system unnaturally and decreasing the salinity. Both results are deleterious to the life forms within this zone.¹⁴⁷ Tabb discusses the threat to the coastal mangrove zone posed by development requiring drainage and diversion of surface waters.

It is generally recognized that salinity twice that of sea-water is toxic to most marine organisms. . . . Furthermore, salinity values slightly less than twice the strength of sea-water prevent hatching of eggs of most marine animals. Without the diluting effect of prolonged fresh-water runoff in large volumes it is likely that salinity in the entire region influenced by Florida Bay will become almost permanently hypersaline. Without supplemental runoff to the Park it is likely that the great fisheries of the region, including that for pink shrimp in the Tortugas, will be seriously reduced. It has been demonstrated that the juvenile stages of most of the species of fish and crustaceans pursued by anglers and commercial fishermen in Florida Bay and the Florida Keys spend several of the critical

¹⁴⁶Leopold Report [supra n. 6], at 115.

¹⁴⁷The adverse results of such "slugs" were recognized early in the course of drainage operations. Tabb quotes Parker's statement that: "In a note appended to Shaler's paper (1890), Alexander Agassiz makes the following comment: 'To the damning up of the waters in the Everglades, and to the sudden outbursts of gigantic masses of water charged with organic matter and lime, we may trace the immense destruction of fishes which so frequently occurs on the shores of the Florida Keys and the waters surrounding them.'" D. Tabb [supra n. 3], at 17.

months of their development in the brackish waters of Florida Bay and adjacent brackish areas. While in brackish water they are largely protected from predation by the adults of the species that cannot tolerate low salinity. The juvenile stage in the life history of the pink shrimp seems to be dependent upon and to actively seek out brackish waters of the coastal areas of Florida Bay and the adjacent Gulf of Mexico. . . . Permanent hypersalinity in Florida Bay could break the cycle by denying the juvenile stages the required brackish areas for their completion of the growing cycle.¹⁴⁸

9. Water Pollution

Water quality in the undrained and undeveloped areas of south Florida is generally of a high quality, and the fresh water flowing into the Everglades National Park from these areas has been adequate to maintain the Park ecology.¹⁴⁹ Where wetlands have been drained and developed the water quality has been impaired by the presence of suspended materials and dissolved substances in the water of the ponds, lakes, glades, coastal marshes, and estuaries of the ecosystem to which the drained and/or diverted water flows.

The life forms of this region require water of high quality. The Environmental Study Group noted that:

The fresh water in the natural areas is generally of high quality relative to human needs. For example, one can safely drink water from the Everglades or Big Cypress Swamp without danger to health. However . . . the water quality needs of other animals and of plants are more demanding.

Generalized water pollution exists in the

¹⁴⁸ Id. at 77.

¹⁴⁹ Leopold Report [supra n. 6], at 71.

agricultural and urban regions of south Florida. By pollution we mean the alteration of water quality by the activities of man. Large volumes of untreated or partially treated sewage and agricultural nutrients and pesticides are released into the hundreds of canals in southeast Florida restricting water-use to fewer categories and producing health problems and the destruction of esthetic values. Excessive coliform bacteria, plankton blooms, and fish kills occur regularly in many canals and borrow pits. The Dade County Pollution Control Officer reports that only 2 of 95 treatment facilities . . . discharge suitably treated effluents into the canals and ocean. Without a (drastic) change in the enforcement of pollution laws in south Florida a similar situation is certain to develop in Collier County with the advent of urban and industrial growth.¹⁵⁰

Alteration of natural water quality, to the detriment of the natural systems dependent upon it, has resulted from the process of drainage, its effects upon water flow, and from use of the drained lands. Drainage removes and/or diverts water from the organic soils which beneficially filter and chemically affect the water flowing over them.

a. Loss of Organic Soils

Under natural conditions the fresh-water flowed over and through rich organic soils (peat). The water served to sustain abundant plant growth which formed additional soils. The soil served an important function in filtering out certain substances and adding others to be borne southward by the water. Water quality is improved by this process. Drainage and diversion of the water into

¹⁵⁰ Report of the Environmental Study Group [supra n. 1], at 42. [Emphasis added.]

canals prevents this slow process of filtration and exchange from occurring.¹⁵¹ The water which is discharged from the canals is of a different quality than that which had flowed naturally southward. This difference is detrimental to the plants and animals utilizing the water.

One result of omitting this filtration process is that the water reaching the natural systems from canals is far more turbid than traditionally filtered water. This turbidity, caused by suspended soil and other solids in the water, results from erosion and silting of drained lands and canals. It causes decreased biological activity because it reduces light penetration necessary for photosynthesis,¹⁵² covers benthic organisms, and diminishes the amount of hard substrate to which the larvae of some species need to attach themselves.¹⁵³

Soil subsidence of drained lands and diversion of flow has also removed the "buffer zone" between the agricultural areas and the Everglades National Park. This "buffer

¹⁵¹D. Tabb [supra n. 3], at 29-31. The Big Cypress Watershed Report [supra n. 28], at 18, notes that: "Recent studies show a tendency toward a small increase in pesticides and nutrients in the water flowing into the park. Past experience elsewhere in the Everglades system has shown that such changes are affecting the species composition of the planktonic organisms. The water delivered through natural drainage tends to improve in quality through a process of self-purification as it flows slowly into the park. Water drained out of the watershed and delivered to the park by canal will not show the improved quality shown by water that drains naturally."

¹⁵²Federal Water Quality Admin. Report [supra n. 15], at 40.

¹⁵³Big Cypress Watershed Report [supra n. 28], at 18.

zone," consisting of organic soil which can absorb contaminants from the water, is now disappearing. Harriss suggests that the disappearance of soils such as those of the Big Cypress, which absorbed up to 99% of the DDT contained in water passing through it, and the diversion of waters away from those soils, will lead to massive pollution of the Everglades National Park and its inevitable death by indirection.¹⁵⁴ The filtration process is especially important to the life forms of the coastal zone of the Park.

The Big Cypress Watershed Report notes that:

The effects of pesticide buildups, associated with residential and agricultural development, are many and profound. Because young organisms tend to be more sensitive to toxins than adults, the estuaries' nursery functions would be severely affected. One of the larger estuarine groups is the crustaceans, which is particularly intolerant of chlorinated hydrocarbons. Aldrin and endrin concentrations as low as 0.6 parts per billion will kill pink shrimp--the most important commercial crustacean in these waters.¹⁵⁵

b. Introduction of Contaminants

i. Nutrients

The Environmental Study Group noted that:

The effects of nutrients on plants is of concern, because plant communities form the landscape and provide the base for the animal food chains. An ecologist generally looks at the concentration of macronutrients,

¹⁵⁴Address of Dr. Robert C. Harriss, Oceanography Department, Florida State University, "Controls on Water Quality in Organic Sediments" at the Everglades Conference at Miami, February 26, 1970.

¹⁵⁵Big Cypress Watershed Report [supra n. 28], at 19.

such as nitrogen and phosphorus, as an index of water quality conditions.

Nutrients enter the ecosystem by water inflow and by rainfall. High nutrient levels cause nuisance algal blooms and shift the species composition of plants and animals. Further, nutrients become incorporated into the biomass of algal mats and aquatic vegetation. The degradation product of algae and macroscopic plants are marls and peats that fill the water basins of ponds, marshes, and wet prairies through geologic times. An increase of nutrients in the water can greatly accelerate the natural aging process of an ecosystem. To cite an example, the U.S. Geological Survey has shown that in Shark River Slough (Everglades National Park) there has been a trend in recent years toward a loss of aquatic communities and an increase in semi-aquatic and terrestrial communities.¹⁵⁶

Removal of nitrogen and phosphates from municipal sewage by tertiary treatment has been considered prohibitively expensive. Agricultural fertilizers supply the other major source of excess nutrients which leads to the process of excessive plant growth and decay known as "eutrophication."

The Leopold Report states that:

Without special treatment to remove nitrogen and phosphorus from any domestic and industrial waste reaching the Big Cypress-Everglades area, eutrophication will ensue. . . . As a result of eutrophication the less desirable planktonic algae will increase in relation to the more desirable epiphytic algae. These will form large blooms that will tend to deoxygenate the water at night, and, over an extended period of time, will silt over the bottom substrata. Alteration of water quality and microflora will, in turn, result in changes in the animal life, and, if the increase in eutrophication is not limited, will seriously

¹⁵⁶Report of the Environmental Study Group [supra n. 1], at 43.

damage the ecosystem in the Everglades and Big Cypress Swamp.¹⁵⁷

The Federal Water Quality Administration noted indications that this process was already well under way. Sulfate concentrations in GAC canals in the Big Cypress were up to 50 times those of undisturbed Big Cypress Swamp waters.¹⁵⁸ Unusually high phytoplankton counts were found downstream from the Golden Gates Estates subdivision and water treatment plant and in livestock grazing areas.¹⁵⁹ The GAC canal systems had the highest iron concentrations in the Big Cypress area.¹⁶⁰ The construction of canals and drainage into them from agricultural and land-clearing operations is also cited as the cause for disproportionately high levels of manganese, lead, and aluminum concentrations.¹⁶¹

ii. Pesticide Contaminants

The use of DDT and other persistent or "hard" pesticides and herbicides poses a serious threat

¹⁵⁷Leopold Report [supra n. 6], at 73.

¹⁵⁸Federal Water Quality Admin. Report [supra n. 15], at 44.

¹⁵⁹Id. at 49. The Report notes, at 57, that the higher plankton population in these waters may be indirectly related to the mechanical removal of certain higher plants, leaving available nutrients for plankton growth. But it suggests that clearing of land, with resultant increased exposure to sunlight will alter the phytoplankton composition as will increase of water temperature from additional solar heating in the cleared land. Undesirable blue-green algae growth will also be stimulated.

¹⁶⁰Id. at 54. Iron is believed to play a significant role in eutrophication.

¹⁶¹Id. at 54-55.

to the ecosystem of southern Florida. The Leopold Report notes that:

The use of pesticides in Florida for agriculture, in homes, on lawns, gardens and turf, and in mosquito control exceeds 40 million pounds per year. This total includes chlorinated hydrocarbons such as DDT, organo-phosphates such as parathion, and carbonates such as Sevin. In Dade County, with a population of 1.5 million people, approximately 5 million pounds of these pesticides are used annually, including 1 million pounds of DDT and other hard pesticides. The amount used annually is increasing as urbanization and agriculture increase.¹⁶²

Pesticides are now concentrated at relatively low levels in the waters of the Big Cypress Swamp. These levels are significantly lower than those in the waters surrounding developed areas.¹⁶³ The "buffer zone" provided by the organic sediments north of the Everglades National Park, described above, and soils within the Park have functioned to remove some of the pesticides flowing southward. The water of south Florida generally contains concentrations of 0.02 parts per billion of DDT and rain contains 0.08 parts per billion. Soils in Shark River Slough within the Park have concentrations of the DDT family "in an order of magnitude of 1,000 times greater than that in the overlying water."¹⁶⁴ But the soils have not absorbed all of the toxic pesticides and the "buffer zone" is being

¹⁶²Leopold Report [supra n. 5], at 81.

¹⁶³Geological Survey Report [supra n. 17], at 84.

¹⁶⁴Report of the Environmental Study Group [supra n. 1], at 45.

constantly reduced in breadth and depth.

The threat to the ecosystem results from the process of "biological magnification" of the persistent (nondegradable) pesticides. The toxic substances are incorporated from the water into the algal mats that form the base of the food chains for many aquatic animals. The Environmental Study Group noted that:

From parts-per-trillion concentrations in water, algal mats and microscopic plants concentrate DDT in their tissues to the parts-per-billion range. Mosquitofish--carnivores that are a few tropic [sic] levels higher than the herbivores--had average tissue levels of 700 parts-per-billion. Marsh, wading and raptorial birds concentrate these toxins to even higher levels.¹⁶⁵

The United States Geological Survey found that aquatic animals and plants from the Big Cypress tended to contain higher concentrations of persistent pesticides than organic sediments, due to biological magnification. Plants and fish from the Golden Gate Canal, part of the GAC development, had especially high concentrations of these toxins in their tissues.¹⁶⁶

Biological magnification has been demonstrated by the Geological Survey in the aquatic ecosystems of south Florida.¹⁶⁷ Pesticides in the tissues of animals at the top of the food chain (birds, mammals and fish) result

¹⁶⁵Id. at 46.

¹⁶⁶Geological Survey Report [supra n. 17], at 53.

¹⁶⁷Leopold Report [supra n. 6], at 78.

in chronic disease and partial sterility. They increase the production of enzymes in birds. These enzymes break down steroid hormones essential to the production of calcium. This results in eggs with thin shells which crack from the mother's weight during incubation, thus preventing successful breeding and contributing to the already heavy odds against the survival of such species as the American eagle, brown pelican, Everglades kite and others.¹⁶⁸ Increased use of pesticides and the resulting concentration in animal and fish tissues also endangers the nursery function of the estuaries of southern Florida and the vitality of associated waters. Juvenile organisms are usually more sensitive to toxins than adults and crustaceans are intolerant of chlorinated hydrocarbons. Aldrin and endrin concentrations as low as 0.6 parts-per-billion kill pink shrimp, the most commercially important species of the area.¹⁶⁹

Man, as part of the overall environment and very much a part of the ecosystem, should not be overlooked as a component in this process. Human health is endangered by concentration of pesticides in wildlife when man consumes the products of hunting, agriculture and fishing

¹⁶⁸Id. at 78-79; Geological Survey Report [supra n. 17], at 85; Report of the Environmental Study Group [supra n. 1], at 46.

¹⁶⁹Geological Survey Report [supra n. 17], at 85.

and thereby magnifies or concentrates pesticide levels in his tissues.

Drainage and development of the wetlands of south Florida have resulted in identifiable adverse effects upon the overall environment and the ecology of Everglades National Park. Further activities of this sort will, predictably, have similarly adverse effects.

The Federal Water Quality Administration concluded that if the Big Cypress and hydrologically dependent Everglades National Park ecosystems are to be preserved:

Additional drainage of the Big Cypress Swamp, including that associated with road construction and commercial, residential, agricultural, and industrial development, should be prevented.¹⁷⁰

and that:

. . . Development of the Big Cypress Swamp for man's use will . . . inevitably destroy the south Florida ecosystem.¹⁷¹

With specific regard to the effects of drainage upon the Everglades National Park, the United States Geological Survey Report concludes that:

A dynamic but delicate adaptation of species to water levels prevails, and any abrupt and

¹⁷⁰Federal Water Quality Admin. Report [supra n. 15], at 11.

¹⁷¹Id. at 63. Emphasis added.

permanent changes of even a few inches in the water-level regimen would result in major changes in the ecology.¹⁷²

.
Continued eastward urban expansion in the Big Cypress . . . would affect water flow, water quality, and biota of the Park.

.
Drainage and development would change the period and pattern of flow, would increase contaminants in the water, and would reduce aquatic production. These changes would adversely affect both the fresh-water and estuarine biota of the Park.¹⁷³

The Leopold Report reaches similar conclusions.

Drainage of the Big Cypress Swamp then will result in a complete alteration of the ecosystem. Overland sheet flow normally flowing into the park from the Big Cypress will cease. Drainage facilities to prevent flooding will remove excess rainfall when it occurs and unnaturally dump it into the park's estuaries. The hydroperiod of the ecosystem will be shortened . . . thus destroying the ecosystem of both the Big Cypress Swamp and its coastal zone.¹⁷⁴

.
. . . Ecosystem destruction in south Florida will take place through the medium of water control, through land drainage and changed rates of discharge. It will come about through decrease in quality of water by both eutrophication and by the introduction of pollutants, such as pesticides.¹⁷⁵

¹⁷²Geological Survey Report [supra n. 17], at 63.

¹⁷³Id. at 89.

¹⁷⁴Leopold Report [supra n. 6], at 66.

¹⁷⁵Id. at 152.

CHAPTER II

FUNDAMENTAL POLICIES AND VALUES

Policies and Values Influencing Decisions Affecting the Southern Florida Watershed

Decisions affecting the watersheds of southern Florida and the Everglades National Park have sought to maximize wealth and well-being. The wisdom of many of these decisions is suspect when evaluated from the present perspective and experience discussed in Chapter I. Tabb summarizes the experience with drainage of the Everglades region, noting that:

The past experience with drainage of the Everglades has not been a happy one nor has it been in the best interest of the general public. Piece-meal development has created more problems than it solves and has ignored the implications of over-drainage. The ideal of water management on a large scale was discussed by O'Donnell (1957): "Water is probably our most complex resource. Water is the flux in Nature's plan. When we modify one part of this plan, we alter all other parts in varying degrees. Until very recently we had considered water as a mass of single problems. We have approached recreational use, domestic use, navigation, surface storage, pollution, hydropower, drainage, flood control, soil conservation, and many other developments as single problems. The tendency is for agricultural groups to consider the land resource and water resource as similar for development and management. They are not similar. The land resource tends to be stable while the water resource tends toward instability. Water has a transient nature. The basic techniques of development and management must first be on the water of the drainage basin. Then, the land management can

be fitted into the proper niche among the adjustments which may be necessary to meet variations in climatic conditions." The exploitation of the Everglades continues, and is expected to continue into the future. It is rationalized on the basis that the agricultural production is worth the reduction of the soil productivity and the wilderness of south Florida. . . . This pattern (of soil subsidence) will continue as long as drainage in the peat and muck lands continues and there is peat to destroy. . . . Increased drainage activity will cut down the time estimated . . . for ultimate destruction of the peat and muck resources, and will cause further reduction in south trending slope, making it more difficult if it is not already impossible to get water from the traditional watershed to the park by gravity drainage.¹

An examination of the history of decision-making in southern Florida reveals the influence of certain fundamental operating policy judgments which weighed and allocated values and reflected the prevailing priorities of society. Among the influential formulations of policy and value judgments were the following:

1. The "Higher Order" of man intends that he exercise dominion over the earth and its resources. There are no lands which are not properly the subject of man's influence and dominion.
2. The surface water of southern Florida is excess water, a surplus commodity.
3. Development by means of drainage and diversion

¹D. Tabb, A Summary of Existing Information on the Fresh-Water Brackish-Water and Marine Ecology of the Florida Everglades Region in Relation to Fresh-Water Requirements of Everglades National Park, Report to U.S. National Park Service, 28, 29 (1963).

of surface water is "progress," a "good," and serves the public interest.

4. The Everglades region and other undeveloped land is wasted land, impedes "progress," and does not serve the public interest. Value derives from usefulness for immediate purposes.
5. The public interest is served by individual gain.
6. Development is not only good, it is inevitable.
7. Drainage of excess surface waters and development of the lands pose no significant threat to the environment or other values. Difficulties or problems may be resolved by the application of technology.
8. The lands drained and thereby rendered suitable for development have been "improved," "reclaimed," and the surface waters and environment have been "controlled," "managed."
9. Environmental values are of secondary importance to the public interest. They relate to aesthetics and the welfare of birds, plants, animals and fish, not man.
10. The value derived from drainage and development of the Everglades "wasteland" is adequate compensation for any damage that may be done to environmental or other values resulting from such activities.
11. Society's interest in environmental values can be

secured by "conservation" of noteworthy examples and segments of the environment by isolating, setting aside and preserving certain areas without otherwise modifying human activities.

Many of the mistaken decisions of the past and the policies which motivated them may be explained by noting that the social, economic and political needs, aspirations and achievements of the nation at that time differed from those of today and that the state of the art of ecology did not permit environmentally-aware individuals to prevail in their attempts to dissuade decision-makers from their course. Whatever justification may have existed in the past, the policies listed above are those which characterize a "frontier" mentality. The Everglades region is no longer a frontier and experience has demonstrated the pitfalls and dangers that result from implementation of such policies. Yet many of these policies are currently operative in the decision-making process affecting southern Florida and Everglades National Park, despite the current revolution of ecological awareness. These policy judgments were misguided, inadequately informed and unwise at the time they were formulated. The discussion which follows demonstrates that they are irrational, inexcusably short-sighted or self-seeking anachronisms today.

1. The concept that man is intended to exercise dominion over the natural environment is perverse and is the

fundamental, most pervasive cause underlying the other policies and environmental difficulties that have been encountered in southern Florida and elsewhere. This anthropocentric view of man's place in the world and his proper role is a teleological one and leads to the view that wilderness must be "tamed," natural forces "controlled" and the entire environment "managed" so that man may achieve his ordained purpose.

The aggressive and selfish approach to other forms of life which usually results from this view is usually complemented by a disturbing racism which appears all too frequently with the lust for power and wealth, as a leit motif, in the history of the white man. There is ample evidence to support the conclusions of Dr. Martin Luther King that:

Our nation was born in genocide when it embraced the doctrine that the original American, the Indian, was an inferior race. Even before there were large numbers of Negroes on our shores, the scar of racial hatred had already disfigured colonial society. From the 16th century forward, blood flowed in battles over racial supremacy. We are perhaps the only nation which tried as a matter of national policy to wipe out its indigenous population. Moreover, we elevated that tragic experience into a noble crusade. Indeed, even today we have not permitted ourselves to reject or to feel remorse for this shameful episode. Our literature, our films, our drama, our folklore all exalt it.²

Society has not yet rejected this attitude. Evidence

²Haley, (ed.), The Autobiography of Malcom X, 368 (1965). See Forbes, The Indians in America's Past (1964).

that this concept of man's destiny continues to be an operative policy judgment is to be found in a memo from Richard H. Judy, Deputy Director of the Dade County Port Authority to Mayor Chuck Hall concerning the Jetport site development stating:

Thank you for the strong and understanding support you have given your Staff in carrying out your policies for the solution and development of the Dade/Collier Airport site. Your actions in speaking out when necessary is [sic] an example of statesmanship. We in turn will do our best to meet our responsibilities and the responsibilities of all men to exercise dominion over the land, sea, and air above us as the Higher Order of man intends.³

2. The judgment that the surface water of southern Florida was excess water was clearly mistaken. The drought conditions of this year bear out Johnson's statement that the resident of southern Florida " . . . has seen water itself change from something to be cursed and waded in, to a resource of first value."⁴

3. The judgment that drainage and diversion of the "excess" waters to facilitate development of the wetlands

³Memorandum from Richard H. Judy, Deputy Director, to Hon. Chuck Hall, Mayor, and members Board of County Commissioners acting as the Dade County Port Authority, September 8, 1969. (Emphasis added.) L. White, The Historical Roots of Our Ecological Crisis, Science, March 10, 1967, notes that: " . . . Human ecology is deeply conditioned by beliefs about our nature and destiny--that is, by religion. . . . By destroying pagan animism, Christianity made it possible to exploit nature in a mood of indifference to the feelings of natural objects." See also E. Murphy, The Necessity to Change Man's Traditional View of Nature, 48 Neb. L. Rev. 299 (1969).

⁴Lamar Johnson, quoted in D. Tabb [supra n. 1], at 16.

served the public interest was based upon the mistaken judgments of (1) and (2) above and upon the associated policy judgments that the increased population was a "good" to be sought by decision-makers.⁵ Although this view continues to enjoy significant credence and support from decision-makers and members of society, it is becoming increasingly evident that this type of "progress" is not a "good." The result is escalation of problems and levels of incompetence in planning and decision-making, based upon previous misjudgments and having ever greater adverse impact. This view is persuasively expressed in the Peter Principle:

Look at the results. Conceivably we are all doomed by our own cleverness and devotion to escalation. Our land, a few decades ago, was dotted with crystal clear lakes and laced with streams of cool, clear water. The soil produced wholesome food. Citizens had easy access to rural scenes of calm beauty.

Now lakes and streams are cesspools. Air is noxious with smoke, soot and smog. Land and water are poisoned with pesticides, so that birds, bees, fish and cattle are dying. The countryside is a dump for garbage and old automobiles.

This is progress! We have made so much progress that we cannot even speak with confidence about the

⁵Everglades of Florida, Acts, Reports and Other Papers, State and National, Relating to the Everglades of Florida and Their Reclamation, S. Doc. No. 89, 62nd Cong., 1st Sess., 53 et. seq. (1911) [Hereinafter cited as S. Doc. No. 89]. For a discussion of the adverse effects of population growth see Effects of Population Growth on Natural Resources and the Environment, Hearings Before the House Comm. on Government Operations, Subcomm. on Conservation and Natural Resources, 90th Cong., 2d Sess. (1969).

prospect of human survival. We have blighted the promise of this century and converted the miracles of science into a chamber of horrors where a nuclear holocaust could become a death-trap for the entire human race. If we continue feverishly planning and inventing and building and rebuilding for more of this progress, we will achieve the level of Total-Life-Incompetence.⁶

4. 5. The judgments that undeveloped land is wasted land and that the public interest in "progress" is served by individual gain follow logically from the preceding judgments. Local interests tend to support such "progress" because of the short-term individual gain secured to them by such projects.⁷ But there is no invisible hand guiding the actions of individual profit-seekers to secure the interests of society. The socialist view of this problem is expressed by commentary in the Guardian that:

Now, the historic conquest of nature by man has turned into its opposite. The price of industrialization on the basis of commodity production and capitalist profit has been the revolt of nature against man. . . .

. . . .
The movement for ecological reform cannot lead to real solution because it fails to attack the root of the problem--industrialization and commodity production. It treats the symptoms rather than the causes, as if the government and the employers will forego profit to allocate public and private resources in a rational way.

. . . .
The liberals forget that the profit imperative is independent of capitalist sensibilities.

. . . .
Of all the new contradictions of advanced

⁶Dr. J. Peter and R. Hull, The Peter Principle, 158-59 (1969).

⁷G. Marine, America the Raped, 153 (1969).

capitalism, the ecology crisis lends itself least to reformist solutions. The doomsday implications of our current course is one of the most important arguments for revolutionary change.⁸

Environmentalists who support the existing system without major revision admit that the values and policies of (4) and (5) continue to influence decision-makers. A weakness which is discussed in subsequent sections is that such advocates of environmental values and critics of past policies and practices generally characterize these values as being non-monetary or for some other reason outside the traditional value structure which has motivated and influenced decision-makers. This approach to environmental values and the problems posed by the continued vitality of (4) and (5) are expressed in the Leopold Report:

The monetary or financial gains which result from development in the modern sense--urban, agricultural, and industrial--are monetary gains which redound primarily to the locality and, to some lesser extent, to the adjoining region and the Nation. The public interest in the preservation of an environment is primarily a nonmonetary one; it is one that affects a large part of the whole society and in a diffused way.

The south Florida problem is merely one example of an issue which sooner or later must be faced by the Nation as a whole. How are the diffused but general costs to society to be balanced against the local, more direct and usually monetary, benefits to a small portion of the society? Concurrently, the society must ask itself whether the primary measure of progress will indefinitely be the degree of expansion of development, such as housing, trade, and urbanization, even at the expense of a varied and, at least in part, a natural

⁸S. Aronowitz, On the Line, Guardian, New York, December 27, 1969, at 7.

landscape.

Some benefits to society flow from failure to develop, but this entails a cost. To reap the benefits of nondevelopment--benefits which accrue generally to a broad part of society--may often put a burden on a small segment of society. Under such circumstances, public policy must be so restated or redefined that the equities are redistributed. At the present time, the operation of public policy in dealing with redistribution of such equities is inconsistent and ill-defined.⁹

6. The belief that "growth" and development to meet its needs are inevitable is a manifestation of a pervasive and deeply-rooted attitude which is closely related to the belief that it is man's destiny to exercise dominion over the earth. Marine notes that:

What has to be broken in the United States is the profound conviction (of Americans) . . . that they don't really have any choice, that things are simply the way they are and that there's nothing that can be done, about birth control or wilderness, war or peace.

And it is no surprise that they think that way--because that is how an Engineer thinks, and the biggest problem America faces from within is that Engineers do its thinking.

.
The most carefully logical exposition I have found of what happens when the Engineers are in control is in a paper by Dr. Sanford S. Farness. . . . "The entire history of American government policy, federal, state and local," he says, "has been based upon the notion of growth indefinitely extended." . . . Anything that sounds as though it might get in the way of "growth" becomes a kind of threat.

But we get so hung up on the idea of "growth" that whenever we start to plan--and of course planning is the whole key to saving what we must save while continuing to make use of the resources our land provides--we make policy decisions without realizing

⁹U.S. Dept. of Interior, Environmental Impact of the Big Cypress Swamp Jetport, 150-51 (1969) [hereinafter cited as Leopold Report].

that we make them. We project growth rates and then we have to prepare--and we don't realize that we've made a decision: a decision to let the growth happen.

Dr. Farress puts it like this . . .

. . . .
 "Trends are derived . . . producing a future growth estimate, which then becomes a bench mark for scaling plans and defining 'future needs.' Instead of treating these 'needs' as results of self-generated policy, present methodology implies that they are the result of automatic, impersonal, socioeconomic, technological 'forces'--playing over the region with relentless effects. The hidden policy decision is never brought to awareness and made explicit.

. . . .
 The American assumption--that growth is somehow built into the system . . . has always been, in our planning, a policy disguised as an inevitability."

Today it is more than that. It is a downright danger. We cannot continue blindly to plan for an automatically assumed "growth rate" when we do not dare continue to grow at the same rate. We cannot prepare the legacy we owe to the world's tomorrow unless we are prepared to make a startling--to an American almost an unthinkable--decision. It is time to stop.¹⁰

7. The belief that drainage and diversion of surface water in southern Florida could be accomplished without damage to the environment may have been naive innocence at one time but evidence discussed in Chapter I demonstrates that such measures have profound adverse impacts upon the natural system and other values. The Leopold Report states that:

A given ecosystem cannot indefinitely be reduced in size and complexity and still survive. As parts are successively removed or altered, biologic balances are continually changed and the stability of the system is undermined.¹¹

¹⁰G. Marine [supra n. 7], at 212-14.

¹¹Leopold Report [supra n. 9], at 8.

The functioning natural environment is a system, of which man is a part. The ecosystem is analogous to a living organism. The dilemma resulting from attempts to modify or isolate a component of a functioning ecosystem is analogous to that resulting from any attempt to collect the award of a pound of flesh in Shakespeare's Merchant of Venice.

Portia: "A pound of that same merchant's flesh is thine: The court awards it, and the law doth give it.

Tarry a little; there is something else.
This bond doth give thee here no jot of blood,
The words expressly are, 'a pound of flesh':
Take then thy bond, take thou thy pound of flesh;
But in the cutting it, if thou dost shed
One drop of Christian blood, thy lands and goods
Are, by the laws of Venice, confiscate.

Therefore prepare thee to cut off the flesh.
Shed thou no blood; nor cut thou less nor more
But just a pound of flesh; if thou cutt'st more
Or less than a just pound, -be it but so much
As makes it light or heavy in the substance,
Or the division of the twentieth part
Of one poor scruple, nay, if the scale do turn
But in the estimation of a hair-
Thou diest, and all thy goods are confiscate.¹²

Portions of the ecosystem cannot be removed without shedding some of its blood, and as the discussion in Chapter I indicated, the scales, by analogy, have turned a great deal more than the estimation of a hair.

The explanation for the continued attempts to cut out only the pound of flesh is to be found in the prevalence of what Marine terms the "engineering mentality" and describes

¹²W. Shakespeare, *The Merchant of Venice*, Act IV, Scene I. This writer is grateful to Joseph Z. Fleming, Esq. for suggesting this analogy.

as:

. . . the capacity to approach problems only in the way that the least imaginative and most robotic of engineers would approach them. The identifying characteristic of the Engineer is that, if you show him two sections of road with a gully between them, he will build a bridge without ever looking down into the gully to see whether it might be, in fact, a river teeming with life and vital to the well-being of a dozen communities. Tell an Engineer that his dam will destroy a salmon run and he will meet that problem with a fish ladder. Tell him that his fish ladder will create another problem, and he will deal with that--but never by abandoning the fish ladder and certainly never by questioning the existence of the dam. What he will not do is look at the totality of what he is doing. He cannot, any more than a raven can fly backward.¹³

This type of Engineer is to be found in decision-making bodies as well as within the engineering profession. The solution to many of the environmental problems of southern Florida was and continues to be to abandon "reclamation" and "management" projects and attempt to manage human activities. Technology is not a panacea.

8. The use of emotive terms such as "improved," "reclaimed," "controlled" and "managed" is similar to the use of the terms "growth," "progress," and "conquering nature." These terms disguise the policy judgment that value is dependent upon usefulness, for individual and short-term gain, in the exercise of man's dominion over the earth. These are key words in that the value system of the individual or decision body using them is revealed as placing priorities

¹³G. Marine [supra n. 7], at 212.

on the values and policies discussed above. They have meaning only with reference to the values and objectives of man in utilizing the resources since the value or perfection in a teleological sense, of a natural system is in functioning as a natural system. There is nothing to "reclaim" from the natural state. The use of these terms disguises the intention to modify, affect and utilize resources which should be articulated. The results of this form of hubris may be successful in achieving its goals, or may, as in the case of efforts to "improve," "reclaim," and "manage" the resources of southern Florida, result in adverse impacts which weigh heavily against the benefits derived.

9. 10. The view that environmental values are of secondary importance to the public interest, relating to aesthetics and the welfare not of man, but of birds, plants, animals, and fish and that loss of these values is compensated by the benefits of development is derived from value and policy judgments discussed above. A response to this approach requires a careful consideration of the meaning of "conservation" and an evaluation of the nature of man's interest in the environment.

The Leopold Report comments that:

The benefit to society accruing from the maintenance of an ecosystem is of a different order than that due to the preservation of a few species.¹⁴

¹⁴Leopold Report [supra n. 9], at 151.

The value of preserving and maintaining the ecosystem derives partially from a need in man which has been ignored in the lustful rush for power and wealth. This need cannot be satisfied by "conservation" of a few of the more spectacular representatives of the environment. It requires the development of what Marine terms an "ecological conscience" which views man as a part of the environment and dictates:

. . . no longer merely a sense of responsibility toward the land and the rivers and the trees, but a whole way of thinking constantly in environmental terms, a way of thinking that embraces cities as well as mountains, hungry and emotionally stunted black children as well as the roseate spoonbill. It is all one--we are all one--and if there is anything to be learned from . . . watching a wary anhinga in the Everglades, it is that.¹⁵

The environmental or ecological imperative based upon awareness or conscience has an ethical sanction which characterized the efforts of traditional conservationists. But it is also sanctioned by some very practical considerations which relate not only to the quality of life but to survival.

Marine notes that:

We must learn--even if it is beyond the Engineers to learn--that we must save our ecosystems, not only because they may be pretty or because man may have a need to get away for recreation or meditation or the simple inhalation of fresh air, but because we may, someday, vitally need what they contain--and we cannot preserve

¹⁵G. Marine [supra n. 7], at 239.

even a single life form in its true manifestation if we take it from its natural home.¹⁶

Dr. John Cantlon of the National Science Foundation propounds what he describes as "the purely practical argument that these arrays of organisms harbor vast amounts of potentially useful information" and points out that:

It would be utterly repugnant to all except the hard-core anti-intellectual to encourage a madman to tour world libraries randomly destroying books. Such a practice permitted to continue unabated would surely result in the total loss of some works and the disappearance of the local translations of others. The genetic information contained in species populations as well as the ecological information content for the total functioning array of organisms in an ecological system represents an irreplaceable resource.¹⁷

There are other practical considerations which should weigh in favor of maintaining an ecosystem. Dr. Idyll notes that:

It is important to clarify a serious misconception which has been put forward in some quarters about the kinds of benefits derived from the continued existence of Everglades National Park. This is to state as forcefully as possible that these benefits accrue to the people of this country, and the statements that the park exists only for the good of birds and other wildlife is a red herring. It is not a question of water for the people or for the birds; it is a question of how important is it to people that this area be preserved.¹⁸

He notes that the choice which is offered by some critics of environmental policies between water for birds and alligators

¹⁶Id. at 239.

¹⁷Quoted in G. Marine [supra n. 7], at 240.

¹⁸C. P. Idyll, The Freshwater Requirements of Everglades National Park, 1 (1965), unpublished.

and water for human beings, or between aesthetics and dollars is false and illusory.

This is a false choice. The alternatives offered are either dishonest, or if we take a more charitable point of view, are offered from muddy and illogical thinking. Everglades National Park was not created and is not maintained for the birds and the alligators, but for humans. The choice is not between the interests and well being of alligators or people, but between the continuation of something of great value to humans or the destruction of this possession.

But for the sake of argument let's pretend this red-herring and spurious choice "between birds and people," "between aesthetics and dollars" is the real choice facing us. In that case, denying the Everglades National Park the water required to keep it as it is now would be a disastrous financial blow to Florida and to the United States. It would be disastrous because it would seriously¹⁹ damage a multimillion dollar shrimp industry.

Other practical considerations which should be weighed in a rational decision process result from the economic value of the Park, and the watershed which sustain it, to southern Florida. The Environmental Study Group suggested that the Everglades National Park should be viewed as a unique wilderness, a scientific laboratory, recreational and educational resources, and commercial resources.²⁰ Some indication of the economic benefit, as well as recreational or educational value accruing to

¹⁹C. P. Idyll, Shrimp Need Fresh Water Too, paper presented at the Joint Convention of the Southeastern Fisheries Association and The Shrimp Association of the Americas, Miami Beach, June 22, 1965, unpublished.

²⁰Environmental Study Group of the National Academy of Sciences and National Academy of Engineering, Environmental Problems in South Florida, 16, passim (1969). [Hereinafter cited as Environmental Study Group].

southern Florida as a result of these characteristics is suggested by the fact that the Park is visited by over one million people each year from all parts of the country.²¹ Tourism is southern Florida's major source of revenue. Marine notes that:

The Department of Commerce estimates, for instance, that if a community is visited throughout the year by a couple of dozen visitors a day, the value to that community is as great as would be an industrial payroll of \$100,000. The Everglades National Park alone was visited in 1965 by more than a million people--an average of about 2,600 a day. The Park is worth \$11 million a year to southern Florida at that rate, and the annual increase in the number of visitors is about 11 percent. This is aside from the Park's payroll--80 permanent staff members and 20 seasonal employees--and the payroll of 125 people employed by concessionaires. Nor does it include the 164 man-years of contractual labor hired by the Park.²²

When this \$11 million is added to the estimated \$16 million shrimp industry and the considerable commercial and sport fishing industry discussed in Chapter I § A2(c), the economic value of the Park and the watersheds that sustain it should become palpable to even the most calloused developer.

It should be noted that any decision based upon a

²¹In 1967 there were 1,098,000 visitors to the Park; in 1968 there were 1,251,000 and in 1969 there were 1,187,000, according to Frank Nix, Park Hydrologist. He suggests that the decline in the number of visitors to the Park from 1968 to 1969 may be due to the charge which was instituted for camp grounds in an effort to limit the number of campers and thereby maintain the wilderness character of the Park.

²²G. Marine [supra n. 7], at 180-81. (Emphasis added).

comparison between the values of development and those of nondevelopment and implementation of the ecological conscience must consider the nature of the development process itself. This process is not only irreversible in terms of its adverse impact upon life forms but also in the sense that once an area is drained it becomes populated and municipal government becomes committed to maintain a lowered water table permanently.²³ The development process destroys its *raison d'etre*. Drainage and development degrade or destroy the natural resources. But even if this were not true they also afford easy access to the resources so that the resources are over-used at the same time that intensive residential, commercial and recreational development is under way. This aspect of the development process is especially threatening to the ecosystem of southern Florida since the delicate aquatic ecosystem of this area cannot withstand the dense crowds such as those that are found at Atlantic coastal beaches or in the TVA reservoir areas.²⁴ Thomas discusses this aspect of the development process as it applies to southern Florida and notes that:

Carson (1951), in a comprehensive analyses [sic] of the factors leading to the remarkable development of Florida's southeastern coast, isolated the "Unique Climate" as the basic reason for this development.

²³Environmental Study Group [supra n. 20], at 39-40.

²⁴Leopold Report [supra n. 9], at 146.

Without careful management of the state's most precious resource, water, we may well read a paper by some specialist of the future stating that the Economic and Social failure of South-eastern Florida was due to its "Unique Climate," even though that climate remained esentially [sic] constant.²⁵

11. The discussion of (7) above should have demonstrated that portions of the ecosystem cannot be cut out or modified without significantly affecting the entire system. Similarly, society's interest in environmental values cannot be secured by cutting out segments for purposes of maintaining them, unaltered and in isolation. The futility of efforts to isolate and thereby preserve environmental values results from two factors: the life forms do not function well in isolation and; adverse impact from development and human activities in adjoining areas is inevitable if such activities are not controlled. A pound of flesh which is cut out of the body of the environment cannot be expected to live without blood to sustain life. The nature of the southern Florida ecosystem and especially that of the Park is such that water, of sufficient quality and quantity, is the lifeblood of the system and all of its parts.

In addition to the impossibility of isolating a

²⁵T. Thomas, A Detailed Analysis of Climatological and Hydrological Records of South Florida with Reference to Man's Influence Upon Ecosystem Evolution, Rep. to U.S. National Park Service, 85 (1970).

portion of the southern Florida environment, there are other reasons which render it inadvisable. The Leopold Report notes that:

Society has an interest in the functioning of an ecosystem as a whole. The substitution of a controlled state of a biologic community for a naturally functioning ecosystem leads to one or more of the following consequences: (a) More controls and increased management are necessary to keep the new unnatural system in reasonable balance; (b) unforeseen consequences are usually costly and often long continued; (c) these costs are usually borne by the public through the expenditure of tax revenue from a large part of society to compensate for unforeseen consequences of actions taken to benefit a small segment of society.²⁶

The problems facing the Everglades National Park all stem from the implementation of the policies and value judgments discussed above. The problem is not one of technology but of the failure of legal, administrative and social practice and institutions to manage human activities so as to secure the maintenance of environmental values which are now, although belatedly, recognized as essential to the public welfare. Everglades National Park cannot exist in isolation as the viable unique ecosystem which led to its creation. It is dependent upon the other

²⁶Leopold Report [supra n. 9], at 151-52.

parts of the ecosystem to the north of it and critically affected by human activities. The extent to which the law expresses and reflects the policies discussed above will determine the extent to which the present system can, without major change, hope to regulate those human activities in an effort to maintain the environmental values of the Park and other areas. The following Chapters examine generally applicable law, particularly useful legal doctrines and the law as it applies to specific controversies affecting the water rights of the Park.

CHAPTER III

ESTABLISHMENT OF THE EVERGLADES NATIONAL PARK

The decisions to establish the Everglades National Park reflected a policy judgment that the preservation of the life forms and overall environment found within that region were important to the public interest. Yet the implementation of that policy determination reflected the influence of the policy and value judgments discussed in Chapter II and especially manifests the influence of the judgment that society's interest in environmental values can be secured by "conservation" of noteworthy examples and segments of the environment by isolating certain areas without otherwise modifying human activities. The problems which now plague the Everglades National Park may all be attributed to the futile attempt to preserve its ecosystem without including all its components.

A. The National Park Concept

The National Park Service was created in the Department of the Interior by act of Congress on August 25, 1916.¹

Its purpose was:

¹30 Stat. 535, as amended, 16 U.S.C. § 1 (1964).

. . . to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.²

The thrust of the legislation is to provide for the acquisition and administration of selected areas of the United States as isolated units and there is no express provision for control of activities outside the confines of the preserve which may impact upon it.

The futility of this aspect of the national parks concept was not appreciated by its supporters and is still largely unrecognized. Mr. John Raftery, Superintendent of the Everglades National Park, commenting upon the problems besetting the Park, noted that:

Modern man no longer feels close ties to nature, but rather apart from it. His abuse of the environment indicates an ignorance of his dependence on it. Fortunately, man has not exploited everything. He has set aside parcels of the natural environment, places that have the capacity to restore a feeling of oneness with nature.

National Parks are established to protect natural areas from human exploitation. They are islands of wilderness in a sea of civilization, relatively unspoiled by man's encroachment.³

A review of the decisions to establish the Park and an examination in subsequent chapters of the law applicable to the controversies in which it is presently involved reveal that this concept of national parks is unworkable. There

²Id.

³Address by J. Raftery, 33rd Annual Meeting of the Florida Academy of Sciences, Gainesville, Fla., March 14, 1969.

are no islands within the sea of civilization. The implementation of this version of the national parks concept would require the inclusion of almost all of southern Florida within Park boundaries in order to contain the ecological unit which the Park was designed to preserve and on which it is dependent.

B. Claims to Establish Everglades National Park

Drainage and development of southern Florida and use of its resources had advanced steadily southward by the early 1900's, producing what Tebeau describes as

. . . the realization that the once seemingly endless bounty of natural wealth was about to be used up beyond the possibility of replenishment. This was true not only of species unique to the Park area but also of others whose last stand was there. Once widespread in Florida and other places in the United States, the march of civilization had pushed them down to the very end of the peninsula and near to extinction.⁴

Conservationists mobilized widespread support for the creation of a national park to protect the remaining region from further degradation and it was only when the idea was more precisely formulated and began to receive the attention of governmental officials that opposition to the proposal arose. Sportsmen were wary of a proposal which would close a large area to unregulated fishing and hunting, real estate developers and

⁴C. W. Tebeau, *They Lived in the Park*, 125 (1963). The exploitation of the resources of southern Florida is discussed at 125-27.

owners opposed the proposal because it would preclude drainage and development of wetlands and deny them the attendant profit which they sought to gain from such activities. Opposition was also encountered from oil interests who hoped to find and exploit large quantities of oil in the area. Tebeau notes that these objections were successfully overcome by the promise of increased tourism revenues which would benefit a broader segment of society and the energetic efforts of economically disinterested conservationists.⁵

C. Decisions to Establish Everglades National Park

In 1929 Congress responded to the requests of conservationists by authorizing the Secretary of Interior to investigate the desirability and practicability of establishing a national park in the Everglades of Florida.⁶ The Florida legislature created the Tropic Everglades National Park Commission in the same year,⁷ for the purpose of promoting the Tropic Everglades National Park with funds obtained from subscriptions and pledges,⁸ and to expend such funds in the acquisition of land for Park purposes in Dade, Monroe, and Collier Counties.⁹

⁵Id. at 127-37.

⁶45 Stat. 1143.

⁷Laws of Fla., Ch. 13887 (1929).

⁸Id., § 2.

⁹Id. § 3.

The Act authorized the commission to acquire land designated by the Secretary of Interior for this purpose by eminent domain or otherwise,¹⁰ and to transfer such lands to the Secretary of Interior.¹¹ Section 12 of the Act consented to acquisition of such lands by the United States, saved to the State of Florida concurrent jurisdiction with the United States in and over such lands for civil and criminal process and conferred on the Congress of the United States power to acquire such lands and

. . . to pass such laws and make or provide for the making of such laws or regulations of both civil and criminal nature, and to provide punishment therefor as in its judgment may be necessary for the management, control, and protection of such lands as may be acquired by the United States under the provisions of this Act.¹²

This language is significant in this context because it provides the basis for an argument by the United States that the State of Florida consented to regulation of land

¹⁰Id. §§ 5, 8, 9.

¹¹Id. § 10.

¹²Laws of Fla., Ch. 13887 (1929). (Emphasis added). The Florida legislature amended and supplemented the 1929 Act in Laws of Fla., Ch. 16995, 16996, 16997 (1935); Laws of Fla., Ch. 20669 (1941), Laws of Fla., Ch. 21665 (1943); Laws of Fla., Ch. 22776, 23109 (1945); Laws of Fla., Ch. 23910 (1947). Laws of Fla., Acts of 1961, Ch. 61-60 repealed all of the then existing and operative legislation concerning the Commission, reciting that it had accomplished its purpose. (Fla. Stat. 264.01-.14 (1969)). But the provision quoted would not be affected by such repeal since it was not limited to the operation of the Commission.

and water use outside the boundaries of the Park which are necessary to secure the natural flow of high-quality fresh-water to the Park so as to protect the Park lands.

The report of the Secretary of Interior to Congress¹³ concluded that the proposed park was unique, of national and not merely local interest, would meet national park standards and recommended establishment of a park extending some fifteen miles north of the Tamiami Trail.¹⁴ The Secretary noted that:

There was some doubt as to whether or not any area north of the Tamiami Trail should be included. To do so would put a main traffic artery within the park area, and the Trail seemed to be a logical northern boundary. However, both in order to prevent undesirable commercial development along the trail and because there are some very scenic areas north of it which should be included, and also because of the possibilities of developing the wonderful bird life of the region for the enjoyment of those who motor along the Tamiami Trail, it has been considered desirable to extend the boundaries north as shown on the map.¹⁵

Land value in the region was estimated at \$1.00 per acre requiring an expenditure of approximately \$1 million to acquire the 1 million acres to be included in the Park which were not owned by the State of Florida. Florida was expected to bear the cost of such acquisition.¹⁶

¹³H. R. Doc. No. 65, 71st Cong., 3rd Sess. (1930).

¹⁴Id. at 3, 5, 6.

¹⁵Id. at 3.

¹⁶Id. at 8.

In 1934 Congress authorized the establishment of Everglades National Park, within the boundaries proposed by the Secretary of Interior, where title to all the lands within that area had been vested in the United States and with the proviso that no lands should be accepted "until exclusive jurisdiction over the entire park area, in form satisfactory to the Secretary of the Interior, shall have been ceded by the State of Florida to the United States" and that no public moneys of the United States shall be appropriated for purchase of such lands.¹⁷ The legislation directed that:

The said area or areas shall be permanently preserved as a wilderness, and no development of the project or plan for the entertainment of visitors shall be undertaken which will interfere with the preservation intact of the unique flora and fauna and the essential primitive natural conditions now prevailing in this area.¹⁸

The Everglades National Park was thereby authorized and now exists as the only national park established specifically for the preservation of flora and fauna and the prevailing natural primitive conditions.

The State of Florida donated lands to the United States and appropriated \$2 million for acquisition of lands.¹⁹ The requisite minimum acreage was acquired, and the Park

¹⁷48 Stat. 816, Ch. 371, §§ 1, 2, 16 U.S.C. § 410, 410a (1964).

¹⁸Id., Ch. 371, § 4, 16 U.S.C. 410c.

¹⁹Fla. Stat. § 264.16 (1969).

was finally established in 1947.²⁰

Major changes in the watershed of southern Florida had taken place prior to the final establishment of the Park in 1947. Tabb suggests that the Park biota had probably adjusted to these major changes by that time.²¹ The unique flora and fauna which were to be preserved were already significantly modified by the time of final establishment of the Park.

D. Inadequacies of the National Park Concept as it Relates to the Water Supply Problems of Everglades National Park

The threats to the quantity, quality and periodicity of fresh-water flow to the Park are the most serious preservation problems facing the National Park Service today.²² These problems are the inevitable result of the island concept of national parks which attempts to remove a segment of an ecosystem. The inadequacies of the concept are especially evident in its application to the southern Florida ecosystem and its implementation in the form of the Everglades National Park. These inadequacies may be

²⁰12 Fed. Reg. 4189.

²¹D. Tabb, A Summary of Existing Information on the Fresh-Water Brackish-Water and Marine Ecology of the Florida Everglades Region in Relation to Fresh-Water Needs of Everglades National Park, Report to U.S. National Park Service, 1 (1963).

²²Statement of Russell E. Train, Under Secretary, Department of Interior, in Hearings on the Water Supply, the Environmental, and Jet Airport Problems of Everglades National Park Before the Senate Comm. on Interior and Insular Affairs, 91st Cong., 1st Sess., 3 (1969).

analyzed as they relate to the control of external and internal activities which impinge upon the water supply of the Park.

1. Exterior Boundaries and Control of External Activities

Figure III-1, Original and Present Park Boundaries,²³ shows the originally-established and present exterior boundaries of the Park. The shaded areas were originally included within the Park. Acquisition of wetlands within the originally-established boundaries of the Park would have secured the water supply of the Park against such threats as the Jetport and drainage activities to the north of the northwest portion of the present boundaries of the Park. Yet the real problem regarding the definition of the exterior boundaries of the Park as it relates to the control of activities which occur outside the Park is that no boundary line will secure the Park from the adverse effects of activities which impinge upon any component of the ecosystem upon which the Park is vitally dependent. The Park cannot be preserved as an island unless the boundaries of that island extend northward at least as far as Lake Okeechobee so as to include the entire watershed of the southern Florida peninsula. Tabb notes the inadequacy of this approach:

²³Adapted from C. Tebeau [supra n. 4], at 139.

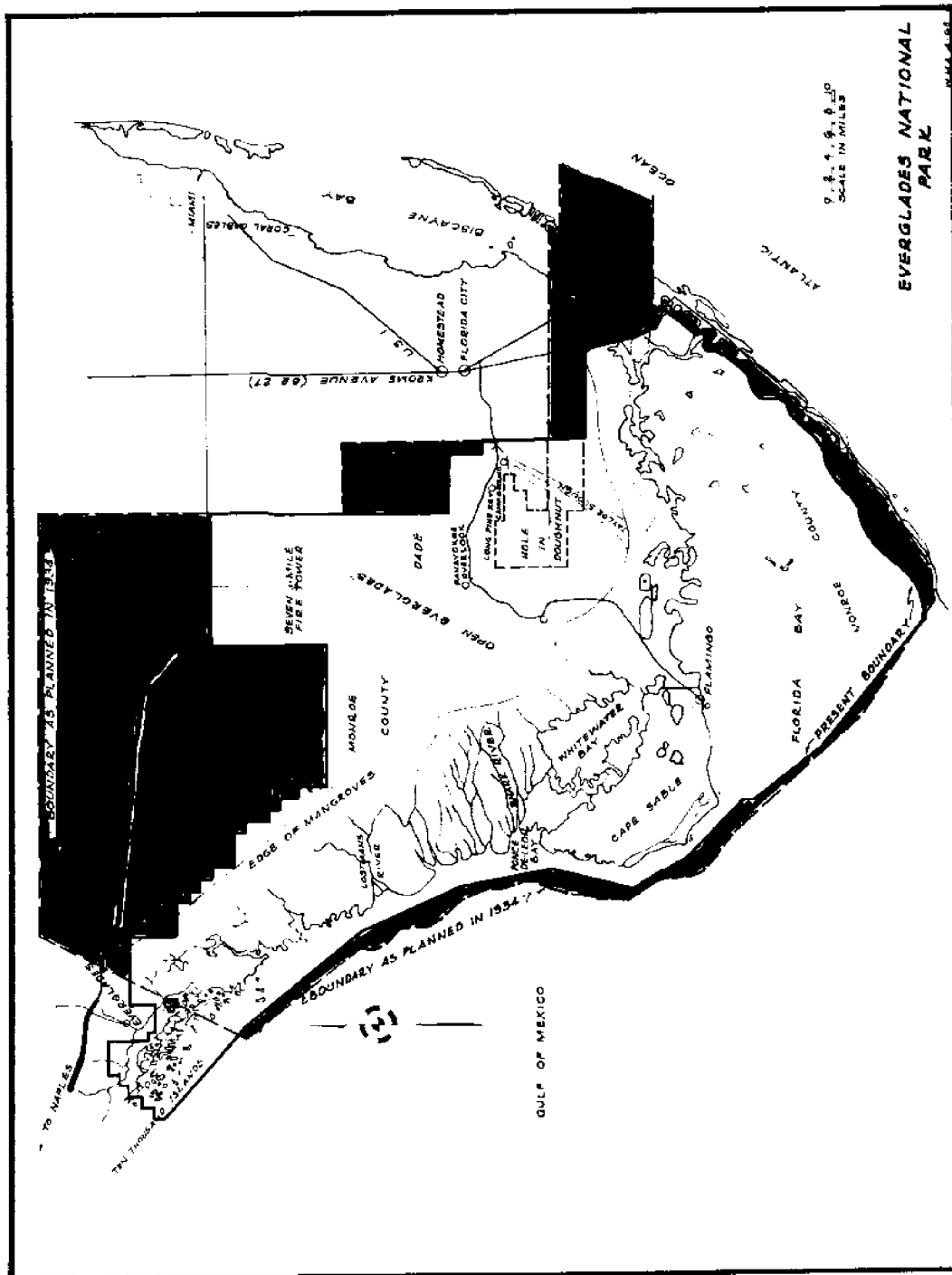


Fig. III-1. Original and Present Park Boundaries

It is not sufficient to establish boundaries around areas in order to protect the resources within them. Today, some 18 years after the boundaries of Everglades National Park were established, the park is in real danger of widespread environmental alteration because of man's efforts to reclaim the watersheds.²⁴

President Truman's statement in 1947 at the dedication of the Park indicates that the dependence of the life forms of the Park upon the natural southward flow of fresh-water was generally understood. "Here is land tranquil in its quiet beauty, serving not as the source of water, but as the last receiver of it."²⁵ With only one exception, however, and that one limited in its utility,²⁶ the legislation establishing the Park did not make any express provision for powers to secure the interest of the Park in natural water flow.

2. Inholdings and Control of Internal Activities

There are approximately 74,000 acres of privately-owned lands within the Park boundaries.²⁷ Some 24,000 acres are located in the area known as the "hole-in-the-doughnut," surrounded by the Park, and some 50,000 acres

²⁴D. Tabb [supra n. 4], at 84-85.

²⁵Quoted in P. Farb, "Disaster Threatens the Everglades," in Hearings on Water Supply, The Environmental, and Jet Airport Problems of Everglades National Park Before Senate Comm. on Interior and Insular Affairs, 91st Cong., 1st Sess., 143 (1969).

²⁶16 U.S.C. 410n (1964) discussed in Chapter V, § C (3) infra.

²⁷J. Raftery, Superintendent of Everglades National Park, Audubon Society, Ft. Lauderdale, Fla., January 31, 1969.

of privately-owned lands are located in the Northwest Extension which was added to the Park by legislation in 1958.²⁸ If exterior boundaries of the Park are to have any validity at all, then lands within those boundaries should be owned or subject to regulation by the federal government. Yet the park concept has not succeeded even within the authorized boundaries.

The legislation of 1958 changing the boundaries of the Park provided that land and water within the new boundaries which were not in federal ownership "shall be administered as a part of the park only after being acquired" by the United States.²⁹

Acquisition by the Secretary of the Interior of lands within the "hole-in-the-doughnut" was limited by the proviso that no parcel within that specifically-described area

. . . shall be acquired without the consent of its owner so long as it is used exclusively for agricultural purposes, including housing, directly incidental thereto, or is lying fallow or remains in its natural state.³⁰

Retention of these lands in their natural state would not threaten the Park. But this limitation applies to some 17,000 acres of land and prevents federal acquisition

²⁸72 Stat. 280, 16 U.S.C.A., § 410 (Supp. 1971).

²⁹Id.

³⁰72 Stat. 284, § 2, 16 U.S.C.A., § 410j (1971).

except by negotiation so long as they remain in agricultural use. The Park is subject to the threat of damages from contamination of water from nutrients and pesticides and the interruption of natural water flow discussed in Chapter I. This limitation upon the exercise of eminent domain was discussed in Halpert v. Udall,³¹ in which plaintiff owned lands within the "hole-in-the-doughnut" which were covered by the proviso. Plaintiff alleged that the section constituted a deprivation of property without due process of law as an encumbrance which limited his use of the lands under pain of eminent domain. The court rejected plaintiff's argument and ruled that the restriction upon the exercise of eminent domain was valid and imposed no burden upon the lands of plaintiff but rather was only a condition precedent to the otherwise valid exercise of eminent domain.³²

The 7,000 acres adjacent to the protected lands in the "hole-in-the-doughnut" and the 50,000 acres of lands in the Northwest Extension which are in private ownership are subject to federal acquisition by eminent domain without the limitation discussed above. The value of all inholdings in 1967 was estimated to be \$12 million.³³ The original authorization for appropriation of \$2 million for acquisition

³¹231 F. Supp. 574 (S. D. Fla.1964), Aff'd 85 S. Ct. 610, 379 U. S. 645, 13 L. Ed. 2d 550 (1965).

³²Id. at 574-75.

³³J. Raftery [supra n. 27].

of these lands³⁴ was increased in 1970 to \$22 million³⁵ but sufficient funds have not been appropriated for acquisition. Until such time that these lands are acquired, they are subject to the same exercise of federal, state and county regulatory jurisdiction as are privately-owned lands outside the boundaries of the Park. They are also subject to the operation of the other doctrines of law which are discussed in the following chapters.

³⁴72 Stat. 286 (1958) as amended 83 Stat. 134 (1969).

³⁵84 Stat. 885, 16 U.S.C.A., § 410 p (Supp. 1971).

CHAPTER IV

APPLICABLE WATER LAW AND LEGAL THEORIES FROM WHICH RIGHTS OF EVERGLADES NATIONAL PARK ARISE AND UNDER WHICH PARK INTERESTS MAY BE PROTECTED

The purpose of this section is to examine the applicable doctrines of law with a view to determining the extent to which these doctrines reflect the policies and judgments discussed in Chapter II. Decisions are examined in an attempt to discern the development of any trends in decision-making which indicate actual or potential change in these policies where they were reflected in the law.

A. Traditional and Developing Water Law

1. Types of Water

The law relating to water rights defines four classes of water: watercourse; diffused surface waters; distinct underground streams; and percolating ground waters. The Supreme Court of Florida expressed the basis for these distinctions in Tampa Waterworks Co. v. Cline:¹

. . . (a) Surface streams which flow in a permanent, distinct, and well-defined channel from the lands of one owner to those of another;

¹37 Fla. 586, 593-94, 2d So. 780, 782-83 (1896).

(b) surface waters, however originating, which, without any distinct or well-defined channel, by attraction, gravitation, or otherwise, are shed and pass from the lands of one proprietor to those of another; (c) subterranean streams which flow in a permanent, distinct, and well-defined channel from the lands of one to those of another proprietor; (d) subsurface waters which, without any permanent, distinct, or definite channel, percolate in veins or filter from the lands of one owner to those of another.

These distinctions are artificial and contrived.

Water is a fluid medium and the classes of waters, like the parts of the ecosystem, are closely interrelated. Thomas notes that:

The legal classes of water, as listed above, are now known not to be separate and distinct, but to be interrelated and interdependent. The minimum flow of water in watercourses comes chiefly from ground water, whether from "defined underground streams" or "percolating" water. The maximum flow of water in watercourses also comes in part from ground water, but is likely to include a large proportion of water that was temporarily "diffused surface water." "Diffused surface waters" may include water from precipitation which has not completed the process of infiltrating into the ground or which cannot enter the ground because of the impermeability of the surfacelayer, or because the ground is temporarily full; overland flows which may either seep into the ground elsewhere or enter a watercourse or lake or pond; the discharge from ground water reservoirs at springs or seeps; water in sloughs or escaped floodwaters in "watercourses" that have been too narrowly limited in their definition; and marshes and bogs formed by ground water where the water table rises to the surface.²

These comments are particularly applicable to the waters of southern Florida which form the watersheds supplying the Park. These waters are in a dynamic, cyclical process as described

²Thomas, quoted in F. Maloney, S. Plager, F. Baldwin, Jr., Water Law and Administration, The Florida Experience, 141 (1968).

in Chapter I. The distinction between "ground" and "surface" water is usually a matter of semantics because of the freely-rising water levels,³ and the waters follow a southward course, derived from rain and overflow of defined lakes and streams, often forming clearly-defined watercourses or sloughs.

Despite the doubtful validity of a legal approach based upon these distinctions, it is worth noting the development that these distinctions have undergone as determinants of rights to the use and supply of water.

a. Watercourse

The flow of water in a "watercourse" may fluctuate and even cease. The Florida Supreme Court has said that:

A natural watercourse is a natural stream bed having bottom and sides in which water usually flows in a defined bed or channel. It is not essential, to constitute a natural watercourse, that the flowing should be uniform or uninterrupted. The other elements existing, a stream does not lose its character or cease to be a natural watercourse because in time of drought the flow may be diminished or temporarily suspended. It is sufficient if it is usually a stream of running water.⁴

The Restatement of Torts states that all springs, marshes,

³U.S. Dept. of Interior, Environmental Impact of the Big Cypress Swamp Jetport, 26 (1969) [hereinafter cited as Leopold Report].

⁴Davis v. Ivey, 93 Fla. 387, 402, 112 So. 264, 269 (1927).

and lakes which supply water to the watercourse are included as part of the watercourse in legal classification.⁵ It would appear that the waters supplying the Everglades National Park should be classified as watercourses if such a classification were attempted anew, on the basis of current knowledge and understanding of the flow, regularity and function of the waters. Yet, as discussed below, these waters have been classified as diffused surface waters, based upon inadequate information and appreciation of their nature and function.

b. Diffused Surface Water

"Diffused surface water" is distinguished from a "watercourse" by the absence of a well-defined channel and basin confining the waters. Maloney states that:

. . . diffused surface waters are those waters resulting from falling rain or melting snow and those rising to the surface in springs, which waters have not collected in a lake or pond or natural watercourse, are still in a diffused state or condition.⁶

The policy and value judgments of the past viewed such waters as excess and burdensome and influenced decision-makers in their determination that the watersheds supplying the Park were "diffused surface water," permitting its

⁵4 Rest. Torts, § 841 (2) (1939).

⁶F. Maloney [supra n. 2], at 198, citing 3 Farnham, Water and Water Rights, § 878 (1904).

disposal, despite the repeated references to a "river," "lake" or "sea of grass" and despite the fact that the drainage basin was well-defined.

The waters of the Kissimmee-Everglades-Okeechobee watershed exhibit characteristics of defined and diffused surface waters as well as underground waters as defined by the law. Courts usually classify such waters which do not fit readily into another category as "diffused surface waters." Waters of a marsh or swamp are still surface waters, although they are a permanent feature.⁷ "Flood waters" are those which overflow the banks of a natural watercourse and follow the course of the stream to its outlet or which, on subsidence, return to the stream. They are considered to be part of the watercourse from which they came and are subject to the legal doctrines relating to watercourses.⁸ The origin of the waters supplying the Park in the natural watercourses of Lake Okeechobee, the Kissimmee River and others would require that they be treated as watercourses except for the fact that they flow southward rather than returning or rejoining the original watercourse. Perhaps the best view, if these distinctions are to be maintained, is that the lakes and rivers which overflow and the overflowed waters constitute,

⁷Campbell v. Walker, 137 Ore. 375, 380, 2 P.2d 912, 914 (1931).

⁸See F. Maloney [supra n. 2], at 200-01 and cases cited.

together, a watercourse. Maloney notes that lake overflows which remain connected to the lake and flow through the natural outlet of the lake in a defined path into another body of water or return to the lake, are not surface water, but part of a watercourse.⁹ This approach is supported by insurance cases which term flooding caused by the accumulation of heavy rainfall as "surface water" but treat water moving, in volume, from a stream as flood waters and subject to the rules of "watercourses."¹⁰ The general rule is that it is only flood waters which entirely lose their connection with a lake or stream and spread out over the adjoining lands to become stagnant that can no longer be treated as part of the lake or stream and are "diffused surface waters."¹¹ The waters supplying the Park flow and do not become stagnant. Both Florida and the federal government appear to have overlooked the origin, nature, and function of the watershed supplying the Park in their classification of these waters as "diffused surface waters."

c. Underground Stream

To constitute an "underground stream" waters must flow in a fixed or definite channel underground, like those of a "watercourse" on the surface. The flow need not

⁹F. Maloney [supra n. 2], at 200, citing Thomson v. Public Service Comm., 241 Wisc. 243, 5 N.W.2d 769 (1942).

¹⁰Id. at 201.

¹¹Id.

be continuous and the existence of an "underground stream" may be evidenced by surface indications or other means without need of excavations.¹²

d. Percolating Waters

"Percolating waters" are analogous to "diffused surface waters." They lack any permanent, distinct or definite channel. Maloney notes that it is well settled in Florida that ground water is presumed to be percolating unless it is affirmatively shown to be flowing in an underground stream and explains this rule on the basis of the difficulty encountered in proving the existence of an underground stream.¹³ These distinctions are without foundation today when many of the ideas of the past concerning ground water have been shown by scientific inquiry to be erroneous. Maloney notes that it is generally agreed today that all ground water is in constant movement under the land, either in watercourses or through the pores of the earth and suggests that the precise physical position and state of the water at a given time should be of no significance to the legal doctrines regulating utilization of the water.¹⁴ The Florida Court has shown an awareness of

¹²Tampa Waterworks v. Cline, 37 Fla. 586, 20 So. 780 (1896).

¹³F. Maloney [supra n. 2], at 151.

¹⁴Id. at 150.

the interrelationship of ground and other waters but the distinctions of the past retain vitality.¹⁵

2. Water Rights in Florida Under State Law

The rights and obligations relating to use of water are determined by the legal classification of the waters. The waters of southern Florida supplying Everglades National Park, are, for the purposes of this analysis, assumed to be either a watercourse or diffused surface water, since the major controversies relate to their use, supply and quality as surface water. The doctrines controlling underground water are similar to those of surface water, based upon the presence or absence of a determinable flow and well-defined course.¹⁶

a. The Swamp and Overflowed Lands Act of 1850

By act of Congress of September 28, 1850, commonly known as the "Swamp and Overflowed Lands Act,"¹⁷ the United States granted to the state all of the then unsold swamp and overflowed lands in the state, the fee simple to said lands to vest in the state upon patents to be issued therefor. Under the grant of 1850, the State of Florida received patents from the United States to more than 20,000,000 acres of swamp and overflowed lands which included the watersheds

¹⁵Koch v. Wick, 87 So.2d 47 (1956); see Maloney, op. cit., 151.

¹⁶See F. Maloney [supra n. 2], at 154 et seq. for discussion of the law of underground waters.

¹⁷9 Stat. 519, 43 U.S.C. § 982 (1964).

supplying the Everglades National Park.

The legislature of the State of Florida, in 1855, vested in the governor and four other state officers, in trust for the people of Florida, so much as remained of the five hundred thousand acres of land previously granted by the United States in 1841,¹⁸ all of the swamp and overflowed lands granted in 1850 and the proceeds of sales thereof.¹⁹ The trust of granted lands and proceeds of sales thereof was to be administered in a separate and distinct fund, called the Internal Improvement Fund.²⁰

The use of the term "swamp and overflowed lands" to describe wetlands of a watershed was a classification based upon the present and short-term usefulness of these lands within the ecosystem. The purpose of the Act of 1850 was the reclamation of the lands included in the grant,²¹ and the legislation declares a policy on the part of the federal government to aid the states in "reclaiming" "swamp and overflowed lands."

"Swamp lands" were considered lands which required drainage to render them fit for cultivation and "overflowed lands" were those which were subject to periodical or

¹⁸ 5 Stat. 455, Ch. 16, § 8.

¹⁹ Laws of Fla., Ch. 610 (1855), Fla. Stat. § 253.01 (1969).

²⁰ Id.

²¹ Sterling v. Jackson, 69 Mich. 488, 37 N.W. 845 (1888).

permanent overflows requiring levees or embankments to keep out the water and thereby render them suitable for cultivation.²² The high natural organic productivity of the lands was not valued for its function and essential contribution to the ecosystem. The lands were considered as wastelands unless they were suitable for agricultural cultivation. Lands which were subject to flooding by excess water of a navigable waterway were generally not considered "overflowed lands,"²³ but the lands beyond the high water mark of Lake Okeechobee which were subjected to the regular flooding by excess waters of that navigable waterbody were considered "swamp and overflowed lands."²⁴

The determination of the Secretary of the Interior as to whether lands were swamp and overflowed was conclusive under the Act, absent a direct attack for fraud or mistake.²⁵ Acceptance by the state of lands certified by the Secretary of Interior as "swamp and overflowed lands" was conclusively binding upon the state as to the title to and the character of the lands certified and subsequently sold by the state.²⁶

²²American Emigrant Co. v. Rogers Locomotive Mach. Works, 83 N.W. 612, 50 N.W. 52 (1891) (rev'd. on other grounds, 17 S. Ct. 188, 164 U.S. 559, 41 L. Ed. 552).

²³Cleveland C. C. & St. L. Ry. Co. v. Mumford, 208 Ind. 665, 197 N.E. 826 (1935).

²⁴Martin v. Busch, 93 Fla. 535, 112 So. 274 (1927).

²⁵See cases cited in 43 U.S.C.A. 983 n. 8 (1964).

²⁶Chauvin v. Louisiana Oyster Commission, 121 La. 10, 46 So. 38 (1907).

It would seem that the characterization of lands as "swamp and overflowed" also served to characterize the waters with which those lands were inundated as diffused surface water, treated by decision-makers of the time as excess and surplus water to be removed by drainage. Determination of the swamp and overflowed character of much of the lands within the watershed supplying the Everglades National Park was made despite the fact that the southward flow of these waters, although almost imperceptible, was recognized in the Report of Buckingham Smith to the federal government in 1848.²⁷

The Act of 1850 contemplated that the swamp and overflowed lands granted to the state should be surveyed by the United States and a "patent issued to the State therefor."²⁸ A survey of the lands was a condition precedent to the perfection of the title granted by the federal government to the state. The state's title remained an inchoate one until the completion of such survey. The character of the land and by indirection, of the water covering it, could not be conclusively determined until a survey was completed.²⁹ Lands within the Everglades region were described as "swamp

²⁷Everglades of Florida, Acts, Reports, and Other Papers, State and National, Relating to the Everglades of the State of Florida and their Reclamation, S. Doc. No. 89, 62nd Cong., 1st Sess., 51-52 (1911) [hereinafter cited as S. Doc. No. 89]. Quoted at text, Chapter I, notes 48-53.

²⁸9 Stat. 519, Ch. 84 §§ 2, 9, 43 U.S.C. § 983 (1964).

²⁹Work v. U.S. ex. rel. O'Donnell, 57 App. D. C. 309, 23 F.2d 136 (1927); State v. Warren Valley Stock Co., 56 Or., 283, 106 P. 861 (1910).

and overflowed lands" but not surveyed by the United States. In order to effectuate and perfect the grant to the State of Florida, Governor W. S. Jennings obtained Everglades patent number 137 from the United States in 1903, describing an area of 2,862,080 acres between Lake Okeechobee and the southern extremity of the Florida peninsula. The patent described the lands by metes and bounds and purported to grant the lands described to the State of Florida in fee simple. A map prepared by the state land office and adopted as the official map of these lands by the Trustees of the Internal Improvement Fund extended the lines by rule from the surveyed lands on the east and west sides of this region without conducting any field survey. The Supreme Court of Florida held that such a map was not a survey sufficient to vest absolute title in Florida as the grantee of the lands and that:

We are of the opinion that where unsurveyed public lands are conveyed by description according to the rectangular method of describing land, although the deed be a grant in praesenti, the title vests in the grantee upon delivery of the deed subject to the right and duty of the political authorities of the state to identify and separate by survey the lands conveyed from the unsurveyed lands within which they are included.³⁰

The region in question³¹ was eventually surveyed but a

³⁰Hardee v. Horton, 90 Fla. 452, 458, 108 So. 189, 201 (1925) (Cert. denied 273 U.S. 714 (1926)).

³¹Everglades Patent No. 137 and map are contained in Hardee v. Horton, 108 So. 189 at 191-92.

significant portion of the lands in the watershed supplying the Everglades National Park have never been surveyed and the language of the Court quoted above suggests that the state and/or the federal government would retain the right to identify lands conveyed and thereby determine the character of the waters on those lands. This point is significant in the present context because of the language of the court in Hardee confirming the rule it adopted in Everglades Sugar & Land Co. v. Bryan,³² that:

"In the purchase of swamp and overflowed lands that have not been conveyed [by the federal government prior to the grant to the state], the vendees take them with knowledge or notice that the lands described are to be located by an authorized survey and . . . that all property in the state is acquired and held subject to the due exercise by the state of its police power."³³

Unsurveyed lands granted under the Act of 1850 are, presumably, still subject to that police power to identify the lands and promote the general welfare, and title has not yet vested absolutely in the grantees. Perhaps more importantly, to the extent that designation of lands as "swamp and overflowed" determines the character of the waters on their surface, the grantees and vendees are not in a position to establish their rights to treat waters on those lands as diffused surface water until such lands have been surveyed by actual field examination and the actual character

³²81 Fla. 75, 87 So. 68 (1921).

³³Hardee v. Horton, 108 So. 189, 201 (1925). See also, cases cited in 43 U.S.C.A. § 983, n. 4.

of the lands shown. The issue of whether the state obtained title to the lands under the Act of 1850 and a patent from the federal government is decided under federal laws.³⁴

b. The Trust Concept

The Swamp and Overflowed Lands Act provided that:

The proceeds of said lands, whether from sale or by direct appropriation in kind, shall be applied exclusively, as far as necessary, to the reclaiming said lands, by means of levees and drains.³⁵

The extent to which this provision created a duty or trust governing the use of the lands as well as proceeds derived from disposition of such lands has been the subject of considerable litigation in Florida and other states receiving lands under the Act of 1850. The rule governing administration and disposition of these and other lands held in trust is that the trust is to be exercised in the public interest and that actions of the trustees will be judged according to the extent to which they are a reasonable exercise of statutory discretion, calculated to insure the public welfare.³⁶

³⁴State v. Tuesburg Land Co., 61 Ind. App. 555, 109 N.E. 530 (1915).

³⁵9 Stat. 519, Ch. 84 § 2, 43 U.S.C. § 983 (1964).

³⁶Caples v. Taliaferro, 144 Fla. 1, 197 So. 861 (1940). Under the "trust doctrine" the public is the beneficiary of a trust in all public lands and waters and the government, as trustee, is obligated to secure the public interest in the use of these resources. This doctrine was originally applied to submerged land under navigable waters in Illinois Central Ry. v. Illinois, 146 U.S. 387, 452-54 (1892). More recent expressions of this doctrine argue that

Cases interpreting the duty of the state under this provision have held that although it created an implied duty to drain the lands, such duty must be confined to lawful modes and could not contravene federal ordinances, acts of Congress, or constitutional provisions.³⁷ Such duty as existed to use the proceeds of the swamp and overflowed lands for drainage purposes runs to the federal government and not to a vendee of the granted lands.³⁸ No limitation in the nature of a trust, enforceable by third parties, arose to proscribe the state's reasonable application and use of the lands and funds for the general welfare.³⁹ In a case of clear violation of the purposes of the grant, Congress alone has the power to

the federal government originally conveyed all land subject to the public trust and that private owners as well as the government are obligated to use lands and waters in a manner which is consistent with the public interest. See Berlin, Roisman & Kessler, "Law in Action: The Trust Doctrine," Law and the Environment (M. Baldwin, ed.) (1969); Sax, The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention, 68 Mich. L. Rev. 473 (1970).

³⁷In re Crawford County Levee & Drainage Dist. No. 1, 182 Wis. 404, 196 N.W. 874 (1924) (cert. denied 44 S. Ct. 454, 264 U.S. 598, 68 L. Ed. 868).

³⁸Everglades Sugar & Land Co. v. Bryan, 81 Fla. 75, 87 So. 68 (1921) (error dismissed 42 S. Ct. 183, 257, U.S. 667, 66 L. Ed. 425, 426).

³⁹See cases cited, 43 U.S.C.A. 983, n. 14 (1960). But see State v. Hastings, 11 Wis. 448 (1860) which held the proceeds of sales of swamp lands cannot be diverted from the purposes for which they were granted to the state.

enforce the conditions of the grant by revocation or otherwise,⁴⁰ and courts have ruled that although the purpose of the Act was the reclamation of lands granted by it, the Act was not intended to operate against the will of the state,⁴¹ and that the state was authorized to decide on the necessity of draining the lands conveyed.⁴² This approach was expressed in United States v. Louisiana⁴³ in which the United States Supreme Court said:

Under the Act of 1850, the swamp lands are to be conveyed to the State as an absolute gift, with a direction that their proceeds shall be applied exclusively, as far as necessary, to the purpose of reclaiming the lands. The judgment of the State as to the necessity is paramount, and any application of the proceeds by the State to any other object is to be taken as the declaration of its judgment that the application of the proceeds to the reclamation of the lands is not necessary.⁴⁴

It is abundantly clear from the discussion in Chapter I that the "reclamation" of the lands granted by the Act of 1850 is no longer, if it ever were, "necessary." Yet the State of Florida determined that "reclamation" was "necessary" and "good." The constitution of 1838, under

⁴⁰American Emigrant Co. v. Adams County, 100 U.S. 61, 10 Otto. 61, 25 L. Ed. 563 (Iowa, 1879); Hagar v. Reclamation Dist. No. 108, (Cal. 1884,) 111 U.S. 701, 4 S. Ct. 663, 28 L. Ed. 569 (Cal. 1884).

⁴¹Vicksburg, S. & P. R. Co. v. Tibbs, 112 La. 51, 36 So. 223 (1904).

⁴²State v. McDonald, 160 Wis. 21, 151 N.W. 331 (1915).

⁴³127 U.S. 182, 8 S. Ct. 1047, 32 L. Ed. 66 (1888).

⁴⁴127 U.S. 182 at 191.

which the State of Florida was admitted into the union contained the following provision:

A liberal system of internal improvements, being essential to the development of the resources of the country, shall be encouraged by the government of this state; and it shall be the duty of the general assembly, as soon as practicable, to ascertain, by law, proper objects of improvement, in relation to roads, canals, and navigable streams, and to provide for a suitable application of such funds as may be appropriate for such improvements.⁴⁵

The statute of 1855 creating the Internal Improvement Fund and the Board of Trustees of that fund provided that:

The board of trustees of the internal improvement trust fund shall . . . make such arrangements for the drainage of the swamp or overflowed lands as in their judgment may be most advantageous to the Internal Improvement Fund, and the settlement and cultivation of the land.⁴⁶

This provision has been re-enacted and continues in force.⁴⁷

The significance of the Swamp and Overflowed Lands Act of 1850 and the creation and actions of the Trustees of Internal Improvement Fund in this context is that they were legal manifestations and implementations of the policy and value judgments discussed in Chapter II. Whitfield notes that:

The policy of encouraging railroad and canal building by legislative land grants secured the construction of the transportation facilities

⁴⁵ Fla. Const., art. XI § 2 (1838). This provision appeared in substantially the same form in the subsequent constitutions of 1861 and 1865 (art. XI § 2).

⁴⁶ Fla. Acts, Ch. 610 § 16 (1855).

⁴⁷ Fla. Stat., § 253.18 (1969).

that so materially contributed to the development and progress of the state to its present prominent position in the union.⁴⁸

Yet it was this same policy which so materially contributed to the "progress" of the environment and to the threat to the Everglades National Park that plagues southern Florida today. The use of the terms "swamp and overflowed lands" and "internal improvement" are code words to disguise a determination that the waters involved were to be treated as excess, diffused surface waters, the disposal of which would best serve the public interest.

The present statutory authority of the Trustees of the Internal Improvement Fund relating to the administration and disposition of "swamp and overflowed lands" reflects confusion, inconsistency, and ambivalence in policy and value judgments that the state cannot afford to indulge. The present form of the original 1855 Act which was entitled "An act to provide for and encourage a liberal system of internal improvements in this state," retains the section directing the trustees to ". . . make arrangements for the drainage of the swamp or overflowed lands as in its judgment may be most advantageous to the internal improvement trust fund, and the settlement and cultivation of the lands." The same section directs the trustees to ". . . encourage actual settlement and cultivation of

⁴⁸Whitfield's Notes, Helpful and Useful Matter, III Fla. Stat. 233 (1941).

the said lands."⁴⁹ This section should be repealed. Advantage to the Internal Improvement Fund, a fund established to administer proceeds derived from sales and drainage of lands, should not be the standard of judgment by the Trustees regarding the management of these lands. The effects of settlement and cultivation have been described above and further activities, encouraged by the Trustees, are clearly not in the public interest.

The Trustees are vested and charged with the management, supervision, conservation and protection as well as the disposition of all lands, including all "swamp and overflowed lands" owned by the state.⁵⁰

The Trustees are directed to:

. . . administer all state owned lands and [they] shall be responsible for the creation of an overall and comprehensive plan for development concerning the acquisition, management and disposition of state owned lands so as to insure maximum benefit and use.⁵¹

They are authorized to bring legal actions to protect, conserve, and otherwise secure the public interest in state owned lands.⁵² This power has not been adequately utilized. An additional source of legal authority and obligation of the Trustees to secure the public interest and renounce prior policies and value judgments relates to the power

⁴⁹Fla. Stat., § 253, 18 (1969).

⁵⁰Fla. Stat., § 253.03 (1969).

⁵¹Fla. Stat., § 253.03(7) (1969).

⁵²Fla. Stat., § 253.04 (1969).

of the Trustees to fix bulkhead lines. Bulkhead lines established pursuant to the statutory procedure and approved by the Trustees:

. . . represent the line beyond which a further extension creating or filling of land or islands outward into the waters of the county shall be deemed an interference with the servitude in favor of commerce, navigation, and conservation of natural resources, with which the navigable waters of this state are inalienably impressed.⁵³

It may, and should, be argued that this servitude in favor of conservation of natural resources is inalienably impressed upon all the navigable waters of the state and that interference with this servitude by state or private action is a violation and frustration of the purposes of the trust in which these natural resources are held for the people of Florida.⁵⁴ It would seem that not only bulkheading but drainage, development, pollution and other human activities affecting the navigable waters of the state may be proscribed if they, in the judgment of the Trustees, based upon competent studies and evidence, threaten the conservation of natural resources. Portions of Everglades National Park, Florida Bay and the Gulf of Mexico are navigable waters which might be protected under this theory. An extension of the principle, analogous to

⁵³Fla. Stat., § 253.122(1) (1969) (Emphasis added).

⁵⁴See Heeb v. Kirk, No. 70-10610 (Circ. Ct., Dade County, July 12, 1971).

the extension of the "commerce clause" of the United States Constitution, could be employed to proscribe any activity which threatens ("affects") the conservation of natural resources of navigable waters.⁵⁵ The discussion in Chapter I describing the importance of the coastal mangrove zone to marine fisheries and the dependence and susceptibility of this area upon activities and water flow from above, would seem to meet the requisites for such an "affect."

c. The Law of Watercourses

Riparian rights arise under the common law with respect to the use of waters in defined watercourses or waterbodies and are incident to the ownership of property abutting such waters. Generally speaking, such rights include the right: to use water for general purposes such as bathing, fishing and domestic use; to wharf out to navigable waters from the shoreline and; access to navigable waters from the riparian owner's shoreline. The Florida Supreme Court has held that riparian rights are in the nature of property, the taking of which necessitates compliance with constitutional due process.⁵⁶ The interest of a riparian owner is not property

⁵⁵Fla. Stat., § 370.10(1) (1969) declaring that the state is the owner of all fish within its jurisdiction, except those enclosed in privately owned ponds not exceeding 150 acres supports this approach.

⁵⁶Thiesen v. Gulf, F. & A. Ry., 75 Fla. 28, 78 So. 491 (1918).

in the substance of flowing water⁵⁷ but a usufructuary right to use the water.⁵⁸

Although the strict common law rules relating to "riparian rights" limited those rights to natural navigable waterbodies, Florida courts generally recognize riparian rights to the use of water of non-navigable waterbodies as well. As between two or more owners of portions of the same waterbody, the rights of use, both consumptive and non-consumptive, in non-navigable waterbodies are similar to those riparian rights incident to owners of land abutting navigable waterbodies.⁵⁹ A discussion of the applicable federal and state tests to determine the navigability of a watercourse or waterbody will therefor be reserved for discussion of federal powers in section B of this chapter.

There are two basic theories of riparian rights in defined waterbodies: the Reasonable Use Rule, commonly known as the American rule, and the Natural Flow Theory. Although the Reasonable Use Rule prevails in most American jurisdictions, Florida has adopted the Natural Flow Theory in several cases which are relevant to the problems and needs of Everglades National Park.

Under either rule, the Park's position will be

⁵⁷Pitkin v. Olmstead, 1 Root 217 (Conn., 1790).

⁵⁸U.S. v. Fallbrook Pub. Util. Dist., 165 F. Supp. 806, 824 (1958).

⁵⁹F. Maloney [supra n. 2], at 35.

greatly enhanced by a determination that the surface waters supplying it constitute a defined watercourse or waterbody. There is ample evidence defining the course and flow of these waters to sustain such a determination which has been widely recognized outside legal tribunals.

At least one Florida court has ruled that sloughs are "watercourses" such that ownership of land abutting on a slough gives rise to riparian rights to the flow of the natural watercourse. The Florida Supreme Court in Davis v. Ivey⁶⁰ adopted the trial court's description of an area similar to the Big Cypress Swamp, composed of:

. . . cypress swamps and ponds and the rising ground forming ridges in between them. These ponds and swamps are connected with other ponds and swamps, forming "strands," . . . These swamps, ponds and strands form the natural water courses for . . . large areas of land. . . .⁶¹

The court found no error in the trial court's charge to the jury that:

The substance of the plaintiff's complaint in all of the counts is that the railroad, either by means of the embankment or the ditch, or both, obstructed natural water courses and diverted the waters from the direction in which nature provided for their flow, and cast them upon plaintiff's lands. I therefore charge you that, for the plaintiff to recover, you must first find from a preponderance of the evidence

⁶⁰112 So. 264 (1927).

⁶¹Id. at 266.

that there were natural waterways between the (properties involved). . . .

. . . .
A natural water course is a natural stream bed having bottom and sides in which water usually flows in a defined bed or channel. It is not essential, to constitute a natural water course, that the flowing should be uniform or uninterrupted.⁶²

The court affirmed the award by the trial court of damages to plaintiff for injuries resulting from defendant's diversion of the natural flow of waters in the watercourse which resulted in the flooding of plaintiff's lands during heavy rains.

i. The Reasonable Use Rule

The basic concept underlying the reasonable use rule is that a stream is a gift of nature to each owner of land along its banks and that each owner has the right to enjoy the stream but not so as to interfere with the reasonable right of use to which all other owners are reasonably entitled. The test as to reasonableness of use is applied on a case-by-case basis, and involves a balancing of conflicting interests. The Restatement of Torts lists four factors to be considered in the balancing process:

1. The social value which the law attaches to the primary purpose for which the use is made;
2. the suitability of the use to the water-course or lake, and to the customs and usages existing with respect to it;
3. the impracticability of preventing or avoiding

⁶²Id. at 268-69.

harm;

4. the classification of a use as riparian or nonriparian.⁶³

The strict common law rule of riparian rights had allowed only "natural" uses of the water for domestic purposes and not "artificial" uses such as irrigation and manufacturing.⁶⁴ This preference for natural uses survives in the weighting of uses by the Florida courts to the extent that competing uses must be reasonable. The reasonable use test is applied in Florida to insure that "each . . . owner has the right to use the water for lawful purposes, so long as his use is not detrimental to the rights of the other . . . owners."⁶⁵ Commercial agriculture must share equally with recreation and other interests in the use of water. This rule was clearly expressed in Taylor v. Tampa Coal Co.⁶⁶ in which the Supreme Court of Florida held that one owner of lands abutting a nonnavigable lake could not irrigate his citrus grove during dry spells if the withdrawal of water from the nonnavigable lake would lower the level of the lake enough to impair the use of water by other owners. Among the other protected rights was the recreational use of the water. The court noted that:

⁶³4 Rest. Torts 853 (1939).

⁶⁴F. Maloney [supra n. 2], at 164.

⁶⁵Florio v. State ex rel. Epperson, 119 So.2d 305, 310 (2d D.C.A. Fla. 1960).

⁶⁶46 So.2d 392 (1950).

The fact that one riparian owner may choose to use the water in the lake for recreational purposes while another may desire to divert it for an artificial use such as irrigation, will not give the latter a superior right to take water to the detriment of the former, for in this jurisdiction there is no distinction in respect to use between a farm and a summer residence.⁶⁷

To the extent that the waters supplying the Park are navigable or defined nonnavigable waters, their use by the Park for recreation, natural resources, education and in support of commercial fisheries should be protected against unreasonable interference by other riparian users. The question of whether a particular use is reasonable should be resolved with regard to the value and policy judgments of contemporary society and the public welfare.

ii. The Natural Flow Theory

The Natural Flow Theory secures to every riparian owner the right to have water flowing through his lands in its natural state, without diminution or increase in quantity, and without adulteration or pollution of the quality of that flowing water.⁶⁸ The approach of the courts of Florida has been to rely increasingly on this theory when dealing with problems such as those faced by the Park. The waters supplying the Park flow in an

⁶⁷Id. See also, *Duval v. Thomas*, 107 So.2d 148 (2d. D.C.A. Fla. 1958) (cert denied with opinion, 114 So.2d 791 (1959)).

⁶⁸*Gladfetter v. Walker*, 40 Md. 1 (1873).

identifiable course and at an ascertainable rate and volume, as discussed in Chapter I. Yet they have been treated as diffused surface waters rather than defined surface waters with a defined bed and flow. The approach that the courts would, presumably, take were the waters flowing to the Park considered defined surface water is suggested by the treatment they are given under the Civil Law Rule for diffused surface water, from which the Natural Flow Theory is derived.

d. The Law of Diffused Surface Waters

i. The Common Enemy Rule

Decision-makers on the state and federal level treated the watersheds of southern Florida as swamp and overflowed lands, covered with excess and surplus water, the disposal of which would best serve the public interest. This treatment and characterization of the waters was in accord with the common law rule which regarded such surface waters as the "common enemy" and granted to the owner of land an absolute right to the surface water covering it, including the right to dispose of it by drainage.⁶⁹ Under this doctrine, the upper owner is free to do as he pleases in order to dispose of the surface water but the lower owner may take any measures necessary to keep the waters from his land, even to the extent of turning the water back upon

⁶⁹4 Rest. Torts 846 (1939).

the lands of the upper owner.⁷⁰ Farnham suggests that the American version of the common enemy rule is a perversion of the original and states that:

. . . there is no general right to fight surface water as the common enemy. All rightful acts with regard to it are confined within very narrow limits that have not been fully defined. And to state generally that such water is a common enemy, or that there is a right to fight it at common law, cannot be otherwise than misleading. . . .⁷¹

The common enemy doctrine granting absolute ownership of diffused surface water threatens to become increasingly detrimental to the interests of society as water shortages become acute. Maloney notes that statutory modifications of the common enemy rule which provide for continued, established average minimum flow when such flow is required to protect lower owner's rights to use the waters, are misdirected. If there is an ascertainable minimum average flow, then the waters should be considered and treated as those of a defined watercourse.⁷² He notes that:

If the flow of water in a particular path is sufficiently constant, the lower owner may be able to show that the upper owner, by obstructing or diverting the flow, has interfered with the lower owner's rights as a riparian owner.⁷³

ii. The Civil Law Rule

The approach of Florida courts to diffused

⁷⁰Turner v. Smith, 217 Ark. 441, 231 S.W.2d 110 (1950).

⁷¹3 Farnham, Law of Water and Water Rights, §§ 889b, c, at 2590-91 (1904).

⁷²F. Maloney [supra, n. 2], at 168.

⁷³Id.

surface waters has tended to abandon the common law Common Enemy Rule and adopt the doctrine originating in the civil law that secures the natural flow of diffused surface waters. It should be noted that this approach to diffused surface waters is substantially the same as that resulting from the application of the Natural Flow Theory to defined surface waters and that application of the civil law rule to diffused surface waters, in effect, denies the distinction between diffused and defined surface waters since it attempts to secure the integrity of the quantity and quality of naturally flowing waters.

Article 640 of the Code Napoleon expresses the civil law rule with regard to diversion and use of surface waters, forbidding activities which injure the downstream landowner and not permitting reclamation of lands which were naturally covered by water to the injury of other property.⁷⁴ The rationale of this civil law approach to diversion of diffused surface water from its natural direction of flow was expressed by the Supreme Court of Illinois in Gormley v. Sanford,⁷⁵

. . . the right of the owner of the superior heritage to (natural) drainage is based simply on the principle that nature has ordained such drainage, and it is but plain and natural justice that the individual ownership arising from the local laws should be held in accordance with pre-existing laws and arrangements of nature. As water must flow, and some rule in regard to it must be established where land is held under artificial titles created by human law, there can clearly be

⁷⁴Martin v. Jett, 12 La. 501, 32 Am. Dec. 120 (1838).

⁷⁵52 Ill. 158 (1869).

no other rule at once so equitable and so easy of application as that which enforces natural laws. There is no trespass as that which enforces natural laws. There is no trespass or hardship in this, for each successive owner takes with whatever advantages or inconveniences nature has stamped upon his land.⁷⁶

Murphy notes that medieval English writers, beginning with Brackton, took up the negative community principle from the civil law and incorporated it into their common law.⁷⁷ Certain things were considered by their nature to be common to all such as air, running water and the sea. No right of private property could attach in such common property. Murphy notes that:

Brackton's rules gave full protection to the doctrine that every riverside owner of land was entitled to the natural flow of the stream in its primitive condition and that anything which varied that constituted a tortious act. Nothing might be done to cause it to flow in a lower or higher, slower or more rapid stream, to diminish it in any way or to cause inconvenience to the neighbors by any change in the bed. By no trick could one cause the water to flow in a manner other than it was accustomed to do. . . .
. . . But even more intriguing than this is evidence from a time, almost a generation before Brackton, in the remote country of Cornwall, that the doctrines laid down in Brackton from the civil law were the current coin of practice in king's courts.⁷⁸

This rule, expressed in the maxim, Acqua Currit et Debet Currere, Ut Currere Solebat (Water runs, and ought to run,

⁷⁶Id. at 162.

⁷⁷E. Murphy, English Water Law Doctrines Before 1400, Am. J. of Legal Hist. 103 (1957).

⁷⁸Id. at 108-09.

as it has used to run) has been adopted by the courts of Florida and applied to surface waters generally, whether diffused or defined.

The leading case in Florida regarding surface water is Brumley v. Dorner⁷⁹ involving the construction of a roadway and ditch by Seminole County which blocked the natural drainage of what were apparently "diffused surface waters" from plaintiff's land. The roadway and ditch caused water to overflow from the ditch onto plaintiff's lands. The Supreme Court of Florida reviewed the common law and civil law rules applicable to surface waters and noted that:

Under the civil law rule the upper proprietor has the right to have the surface waters flow from his lands to the lower proprietor's in its natural course, but under this rule the upper proprietor has no right, even where the water naturally passes from his lands to that of the lower proprietor, to gather the water together into ditches and to cast it in quantities upon the lower proprietor. Under this rule of law the upper proprietor has no right to gather the surface water and direct it out of its natural course and throw it upon the lands of the lower proprietor, upon whose lands it would not naturally flow in any quantity, but the lower proprietor has the right to have the surface water carried from the upper proprietor in its natural course, and not to be cast upon his lands by drainage or otherwise. Under the common-law rule, carried to its last analysis, or as claimed by some courts, the surface water that falls upon lands is the natural enemy against which all persons may contend without reference to the rights of any other landowner. . . . The almost universal rule, as gathered from the decisions, is that no person has the right to gather surface waters that would

⁷⁹78 Fla. 495, 83 So. 912 (1919).

naturally flow in one direction by drainage, ditches, dams, or otherwise, and divert them from their natural course and cast them upon the lands of the lower owner to his injury.⁸⁰

The court drew no distinction between defined water-courses and diffused surface waters and the articulation of the applicable law suggests that even under the extreme form of the Common Enemy Rule, only that water which fell upon the lands of the upper owner was the natural enemy and water which originated elsewhere and flowed over the land was not within the terms of the rule and could not be treated as the natural enemy. The waters of the southern Florida watershed flow southward from headwaters in central Florida and are replenished and augmented by rainfall. Most, and in many cases all, of the waters which inundate the wetlands of southern Florida have flowed to and through lands from the north. Water from rainfall on the lands is comingled with water which has flowed from the north and it is not possible to distinguish between the two. Thus, even the Common Enemy Rule, as articulated by the court in Brumley, would not give landowners the right to drain their lands or otherwise affect the natural flow of water without regard to the rights of downstream owners.

It is probable that the original intention of the court in adopting the civil law approach was to facilitate

⁸⁰Id. at 913-14 (Emphasis added).

drainage efforts by denying the right of the lower owner to cast waters back upon the upper owner, as was his right under the Common Enemy Rule. The civil law approach was thus concerned with securing the rights of the upper owner to utilize and benefit from natural drainage patterns which would carry water from his land and limited this right against unreasonable increases of the natural flow which would injure the downstream owner. This approach tended to secure the absence of excessive water and was negative in its determination of the value of surface waters. Early cases concern themselves with issues regarding the rights of lower owners to be free of undesired flooding of their lands resulting from drainage and diversion of waters from the lands of upper owners rather than with the rights of lower owners to receive a desired natural flow. The lower lands were described as servient estates and subject to the servitude of drainage from the upper, dominant estates.⁸¹

Yet the rule cited from the civil law and adopted in the early cases was broader than was needed to serve this purpose and encompassed positive rights of the lower owner to the natural quantity and quality of the water

⁸¹Seaboard All Fla. Ry. Co. v. Underhill, 105 Fla. 409, 141 So. 306 (1932); Pearce v. Pearce, 97 So. 329 (2d D.C.A. Fla. 1957); Edason v. Denison, 142 Fla. 101, 194 So. 342 (1940); New Homes of Pensacola Inc. v. Mayne, 169 So.2d 345 (1st D.C.A. Fla. 1964).

flowing to his lands. This surreptitious positive content of the civil law approach was expressed in Brumley and clearly articulated in the early case of Tampa Waterworks Co. v. Cline⁸² in which the Supreme Court of Florida stated that:

. . . the proprietor below has, in the absence of any modification of relative rights by contract or prescription, no right to throw the water back on him above, and has the right to receive it from the proprietor above substantially undiminished in quantity and uncorrupted in quality; and this right arises, not from any supposed grant or from prescription, but ex jure naturae. . . .⁸³

The rule set out in Brumley and Tampa Waterworks has been consistently followed and expanded in subsequent cases. In Callan v. G. M. Cypher Co.,⁸⁴ the court recognized the general rule but found no evidence that the water from drainage would tax the natural watercourse beyond its capacity to the injury of the plaintiff. In Dade County v. South Dade Farms, Inc.⁸⁵ the Supreme Court cited Brumley and the maxim that Aqua currit et debet currere, ut currere solebat with approval.⁸⁶ The court found that drainage by the defendant would alter the flow and quantity of water flowing to plaintiff's lands,

⁸²37 Fla. 586, 20 So. 780 (1896).

⁸³20 So. 780 at 782 (Emphasis added).

⁸⁴70 So. 841 (1916).

⁸⁵133 Fla. 288, 182 So. 858 (1938).

⁸⁶182 So. 858 at 860 (1938).

to his injury, and enjoined the defendants from altering the existing flow. In Willis v. Phillips,⁸⁷ the court stated, in the language of the civil law rule, that "the law sustains the natural flow of surface waters"⁸⁸ and recognized this as the general rule again in Stoer v. Ocala Mfg., Ice & Packing Co.⁸⁹ but found that plaintiff did not bring himself within the rule since his lands were overflowed as a result of his own negligence. The court reached a similar conclusion in Bray v. City of Winter Garden⁹⁰ and clarified the limitation suggested in Brumley, that the right to drain and divert applies only to water falling upon the owner's lands.

. . . A dominant proprietor would not be allowed to cause a flood by the accumulation of water not originating on his property and would not be permitted to dam water there and discharge it in damaging quantities upon the lower owner.⁹¹

The general rule was again applied in State Road Dept. v. Newhall Drainage District⁹² to enjoin the construction of drainage culverts by a drainage district, because of threatened damage to plaintiff's lands from the altered

⁸⁷2 So.2d 732 (1941).

⁸⁸Id. at 733.

⁸⁹24 So.2d 579 (1946).

⁹⁰40 So.2d 459 (1949).

⁹¹Id. at 461.

⁹²54 So.2d 48 (1951).

and increased flow of water. In Lawrence v. Eastern Air Lines, Inc.⁹³ the court cited the language in Brumley and concluded that defendants' acts unlawfully altered the flow of surface water to the injury of plaintiffs. In Pearce v. Pearce⁹⁴ the court rejected the defendants' contention that flood waters were a common enemy against which the defendants were entitled to protect themselves if such protective measures resulted in injury to other proprietors and enjoined defendants from closing certain natural drains or sloughs and from constructing dikes which caused surface waters to be diverted and cast upon lands of plaintiff.⁹⁵

⁹³81 So.2d 632 (1955).

⁹⁴97 So.2d 329 (2d. D.C.A. Fla. 1957).

⁹⁵Accord, Libby McNeil v. Roberts, 110 So.2d 82 (1959) where the supreme court followed the recognized rule and enjoined defendant from obstructing natural drainage of surface water which would cause injury to plaintiff; New Homes of Pensacola, Inc. v. Mayne, 169 So.2d 345 (1st D.C.A. Fla. 1964) where defendants were enjoined from maintaining a drainage ditch in such a manner as to cause plaintiff's lands to wash and erode. Edason v. Denison, 194 So. 342 (1940) appears to be the only exception to the general rule. The Florida Supreme Court ruled that the owner of a dominant estate has the right, by ditches or drains, to drain his own land into natural and usual channels notwithstanding the fact that the quantity of surface waters cast upon the servient estate is greatly increased. The owner of the dominant estate deepened existing ditches on his own land and the case may be limited to these facts where defendant may increase the flow of water discharged through already existing ditches. The language of subsequent cases casts the precedent value of even this limited interpretation of the case in doubt.

It is clear from the cases discussed above that Florida law permits a landowner to drain surface water from his lands but always limits the right so as to prevent diversion, cessation, diminution or increase of the quantity and alteration of the quality of the water to the injury of other proprietors.⁹⁶

iii. The Reasonable Use Rule

Maloney suggests that modifications and exceptions to the common law and civil law rules, developed in case-by-case adjudications, often cause the courts to reach similar conclusions under the two rules but that the standard and burden of proof under the rules is different. The basic premise of the civil law rule is that neither landowner may interfere with the natural flow of surface waters, and the burden of proving that an interference was justified by exception to the rule is upon the owner who interferes. Under the common enemy rule, the landowner starts with an unqualified right to do as he pleases and it is for the injured neighbor to show that the challenged activity is within a modification of the common enemy rule which would proscribe it.⁹⁷ The uniform result of the approach of the courts under the influence of the civil law rule has been to develop a definition of reasonable

⁹⁶34 Fla. Jur., Waters and Watercourses 45, at 178-81.

⁹⁷F. Maloney [supra n. 2], at 205.

use with regard to surface waters, whether defined or diffused, which prohibits, as unreasonable, diversions by the upper owner of the natural flow or impairment of the quality of the water to the injury of the lower owner.

e. The Administrative System of Water Rights in Florida

The legal approach to surface water rights and obligations in Florida has been affected by statute. Administrative bodies have been given authority to regulate withdrawals from and deposits into surface waters, thereby regulating use and allocating supplies of water.

In attempting to protect the rights of lower riparian owners which may have become vested under common law riparian doctrines and at the same time maintain sufficient flexibility to adjust and adapt to changing conditions so as to secure well-being, the issue of an unconstitutional taking of rights to the use of water has arisen. Maloney notes that:

The ultimate question that must be resolved in determining whether a regulatory statute is constitutionally valid is whether the alteration involved is so drastic that it unreasonably changes the exceptions normally flowing from the property interests affected, and thereby demands that the community make restitution to the injured individuals.⁹⁸

The reasonable use doctrine is thus retained to the extent that expectations based upon it may be recognized as a basis for compensation.

⁹⁸F. Maloney [supra n. 2], at 175.

The trend in Florida has been to establish special administrative entities to deal with particular water problems rather than to approach water resources as a subject requiring comprehensive, all-embracing planning and regulation to deal with every aspect of water resource problems within a unified and coherent framework. The structure, authority and operations of several of these administrative creations have significant impact upon the water resource needs and rights of the Everglades National Park.

i. Single Purpose Water Management Districts--
General Drainage Act of 1913

Florida's major water resource problem has, until recently, been considered to be a superabundance of that resource, requiring drainage of what was considered excess water. Drainage was conducted as an individual effort until the late 1800's when government became involved and pursued "reclamation" of the wetlands. Drainage districts were legislatively created by special act or general act of local application.⁹⁹

The General Drainage Act of 1913¹⁰⁰ provided another means to create single purpose and single-minded drainage districts. Under this cumbersome statute, which continues in

⁹⁹E.g. Everglades Drainage District, Fla. Laws, Ch. 6456 § 1 (1913).

¹⁰⁰Fla. Laws, Ch. 6458 § 1 (1913).

force in substantially the same form,¹⁰¹ a drainage district may be established by decree of the circuit court upon the petition of a majority of land owners or owners of a majority of acreage within the proposed district agreeing to obligate and bind their land to pay taxes to fund drainage operations.¹⁰²

Landowners within the proposed district are given the right to file objections to the creation of the district and a hearing is required in the circuit court. The court is directed to overrule the objections and establish the district

. . . If the court shall be of the opinion that the establishment of the said drainage district and the improvements to be made thereunder will be for the advantage of the owners of the real property therein or that the same would be in the interest of the public health, convenience or welfare.¹⁰³

The circuit court in the county in which the proposed drainage district is to be established functions as the administrative body under this Act in establishing the drainage district. In Burnett v. Greene¹⁰⁴ the Florida Supreme Court upheld the statute as constitutional and rejected the assertion that it was an unconstitutional delegation of an exclusively legislative function, holding that the determination of whether conditions exist upon which the law operates is a

¹⁰¹Fla. Stat. § 298 (1969).

¹⁰²Fla. Stat. § 298.01 (1969).

¹⁰³Fla. Stat. § 298.03 (1969).

¹⁰⁴105 Fla. 35, 144 So. 205 (1932).

quasi-judicial function, not an exclusively legislative power and valid under the Florida constitution.¹⁰⁵

Numerous drainage districts have been established under the General Drainage Act of 1913 and Maloney notes that such districts need not, under the Act, correspond to, or in any way consider, the watershed being drained. He suggests that the function of the circuit court in ruling on the petition and objections is probably the best or most expert method of achieving efficient overall planning of drainage districts and that because drainage districts threaten to cause water shortages and other problems, a large multipurpose water management district is the preferred approach to problems involving water resources.¹⁰⁶

The effect of the General Drainage Act as it relates to the water rights of the Park is discussed in connection with the Gum Slough Controversy in Chapter VI.

ii. Water Management and Regulatory Districts

Under the Water Resources Law of 1957

The Water Resources Law of 1957¹⁰⁷ granted the Department of Water Resources broad powers in response to drought conditions and the need to coordinate flood control and water management districts. The policy statement

¹⁰⁵The constitutional validity of the Act was considered to be well settled in *Certain Lands in Putnam Cty. v. East Palatka Drainage Dist.*, 111 Fla. 795, 149 So. 766 (1933).

¹⁰⁶F. Maloney [*supra* n. 2], at 293.

¹⁰⁷Fla. Laws, Ch. 57-380 (1957); Fla. Stat., § 373 (1969).

of the Water Resources Law provides that:

The ownership, control of development and use of waters for all beneficial purposes is within the jurisdiction of the state which in the exercise of its powers may establish measures to effectuate the proper and comprehensive utilization and protection of the waters.¹⁰⁸

Maloney notes that the Water Resources Law may be analyzed in terms of two main features: (a) a permissive permit system to provide for diversion of water, and; (b) a compulsory permit system to restrict the use of water.¹⁰⁹

a. Permissive Permit System

The policy of the Water Resources Law to encourage effective utilization of all water is implemented by conferring upon the Department of Natural Resources the power to grant the right to use excess water beyond riparian and overlying land and to delegate this power to water management districts in the state. This authority is limited by providing for diversion only in excess of the average minimum flow at the point of capture and no diversion beyond riparian land may be authorized which interferes with existing reasonable uses.¹¹⁰ Maloney notes that this authority to capture, store and use water has not been delegated nor have permits been issued. Municipalities have failed to

¹⁰⁸Fla. Stat., § 373.072 (1969).

¹⁰⁹F. Maloney [*supra* n. 2], at 282. The Water Resources Law is discussed in detail at 189, 279-85, passim.

¹¹⁰Fla. Stat., § 373.141(1) (1969).

apply for permits to use water beyond riparian land and Maloney suggests that this is because they fear being denied permits or being placed in a position of low priority from which to compete for available water in times of drought.¹¹¹ Permissive permits would be of no value in such a shortage since they give rights only to excess water and water regulation under the 1957 law in a period of water shortage would require the establishment of a regulatory district with a showing of the necessity therefor.¹¹² This may be a fatal weakness in Florida's permit system.¹¹³

b. Compulsory Permit System

The Compulsory Permit System under the Water Resources Law is based upon the establishment of water regulatory districts.¹¹⁴ Districts are delegated authority to: establish rules, regulations or orders affecting the use of water as conditions warrant, and forbidding the construction of new diversion facilities or wells, the initiation of new water uses, or the modification of any existing uses, facilities, or storage within the affected area; regulate the use of water within the affected area by

¹¹¹F. Maloney [supra n. 2], at 189.

¹¹²Fla. Stat., § 373.142 (1969).

¹¹³F. Maloney [supra n. 2], at 189.

¹¹⁴Fla. Stat., § 373.144, .151, .171 (1969).

apportioning, limiting, or rotating uses of water, or by preventing those uses which the local board finds have ceased to be reasonable or beneficial; make other rules, regulations and orders necessary for the preservation of the interests of the public and of affected water users.¹¹⁵ Many of the problems facing Everglades National Park could be resolved by operation of this law so as to secure its water rights and needs as a legitimate and reasonable use. Yet the cumbersome procedural aspects of the establishment of water regulatory districts have prevented the law from becoming operative and achieving its purposes.¹¹⁶ A further limitation upon the potential effectiveness of the Water Resources Law in resolving problems facing the Park is that it exempts from operation of its regulations and proscriptions individual users of water for domestic purposes or ordinary livestock consumption and water-borne wastes from municipalities or industries are also exempted.¹¹⁷ Pollution by such major sources are thus exempted and a further limitation prevents the modification of existing use or disposition unless present use is "detrimental to other water users or to the water resources of the state."¹¹⁸

¹¹⁵Fla. Stat., § 373.171(1) (1969).

¹¹⁶See F. Maloney [supra n. 2], at § 62.2 (b) for discussion of these problems.

¹¹⁷Fla. Stat., § 373.091 (1969).

¹¹⁸Fla. Stat., § 373.171(3) (1969).

"Detrimental" here probably does not include pollution. It might be argued that diversion and pollution from many present uses are sufficiently "detrimental" to the Park and the water resources of the state to justify modification under this provision.¹¹⁹

iii. Multipurpose Water Administration--
Central and Southern Florida Flood
Control District

The history of drainage and flood damage which led to the formation of the Central and Southern Florida Flood Control District has been discussed in Section C of Chapter I. Its role in causing and resolving water problems facing Everglades National Park, as well as the role of the federal government in the project, are discussed in detail in Chapter VI. The present discussion is designed to examine the role of the State of Florida and the legal status of the district and to evaluate its authority and effect upon common law doctrines which could be of use in securing the interests of the Park.

The Central and Southern Florida Flood Control District (FCD) encompasses an area of 15,570 square miles which include all or parts of 18 counties in eastern central

¹¹⁹But see F. Maloney [*supra* n. 2], at 285, suggesting that "detrimental" in this provision, probably does not include pollution.

and southern Florida.¹²⁰ The FCD may be instructively viewed as composed of five subareas: Upper St. John's River Basin in the northernmost portion; Kissimmee River Basin; Lake Okeechobee and its outlets; Everglades; and coastal areas which are heavily urbanized. It deals with the entire range of water resources of southern Florida-- lakes, rivers, streams, grassy marshlands, cypress swamps, salt water marshes and mangrove forests, inland waterways and the Atlantic Ocean, and includes the eastern portion of the watershed supplying the Everglades National Park.

Flood control was the major purpose and goal to be achieved by the creation of the FCD but water control, water conservation, prevention of salt-water intrusion, preservation of fish and wildlife, improvement of navigation, recreational development and pollution abatement were also cited as purposes and benefits to be derived from the project.¹²¹ Water conservation was to be achieved in connection with flood control as part of overall water management. Levees were proposed to hold water and canals and pumps utilized to channel water into storage areas. Three such storage areas in the Everglades in addition to Lake Okeechobee, have been acquired and are

¹²⁰U.S. Army, Corps of Engineers, Comprehensive Report on Central and Southern Florida for Flood Control and Other Purposes, H.R. Doc. No. 643, 80th Cong., 2d Sess. 13 (1948) [hereinafter cited as H.R. Doc. No. 643].

¹²¹Id. at 32-38.

utilized for water storage and recreation.¹²²

The Florida Supreme Court has ruled that the FCD was successor to the Trustees of the Internal Improvement Fund with regard to the trust to be exercised over wetlands within the district.¹²³ The points discussed and theories suggested with regard to the exercise of that trust in Section 2.b, of this Chapter, are therefore applicable to the FCD.

The FCD has a five-man governing board, appointed by the governor of the state and vested with authority to make rules and regulations for the administration of the works of the district.¹²⁴ Unlike regulation of water use through the establishment of water regulatory districts as discussed in the preceding section, the FCD regulates use of surface water by compulsory permits governing withdrawals and drainage of water into district works. Consumptive use of water is at the sufferance of the district.¹²⁵ The district is authorized to "make and adopt reasonable rules, regulations, and orders consistent with law."¹²⁶

¹²²Fla. Stat., § 378.16(1) (1969). See Fla. Dev. Comm. Recreation Plan: The Area South of Lake Okeechobee (1960).

¹²³Albury v. C. & S.E.F.C.D., 99 So.2d 248 (1947).

¹²⁴Fla. Stat., § 378.151 (1969).

¹²⁵Fla. Stat., §§ 378.01(3), .151, .17(1) (1969) expressly give the district authority to regulate discharges into and withdrawals from district waters.

¹²⁶Fla. Stat., § 378.151 (1969).

Permittees are required to agree to alter or cease withdrawals if required in the interest of the flood control program as a condition to receiving a permit,¹²⁷ and district regulations state that:

The amending or changing of any policy, practice, procedure or regulation shall in no way constitute a basis for any claims for damages nor shall become the basis of a legal suit by any permittee.

No permit will be granted for any use of district works when granting such would be inconsistent with the Comprehensive Plan for Water Control in Central and Southern Florida.¹²⁸

The Comprehensive Plan to which the regulations refer is the original plan for the joint federal-state project of which the FCD is a part¹²⁹ and which provides for the preservation of the Everglades National Park and the satisfaction of its water requirements.¹³⁰

The FCD issues permits and imposes both general and specifically applicable conditions upon withdrawals and discharges of water affecting district work. In issuing permits to nonriparian agricultural users for withdrawals from the Caloosahatchee River, the district requires that such permittees agree that they will cease withdrawals before riparian owners in the event of a

¹²⁷Central and Southern Florida Flood Control District, Standards of Construction and Permit Procedures, ii (1969).

¹²⁸Id. at 2.

¹²⁹H. R. Doc. No. 643 [supra n. 120].

¹³⁰Id. at 57.

water shortage.¹³¹ This requirement is consistent with traditional riparian law but is significant in this context because it demonstrates the power and authority of the district to establish and enforce priorities in water use through the permit system. The FCD also allocates water supplies by setting the depth to which the intake pipe of a permittee may enter the district waterbody, thereby ensuring that withdrawals by that permittee will cease when FCD waters fall below the prescribed level.

When the City of Fort Pierce applied to the FCD for a permit to withdraw surface water for municipal water supply purposes the district required that it agree to cease withdrawals before agricultural users in the event of a water shortage. Maloney notes that the FCD imposed the condition because the canal in question was originally part of a system which had been privately constructed by agricultural users and subsequently acquired by FCD. The district, which normally would have given priority to human consumptive use, took the position that the construction of the canal by agricultural users entitled them to first consideration and a priority of use of the waters of that canal. The city was unwilling to accept this condition and secured ground water for its source of water.¹³² The significance of this exercise

¹³¹F. Maloney [supra n. 2], at 192.

¹³²Id. at 188.

of the authority to allocate water supplies is that the Everglades National Park, a riparian owner and user of the waters of the district, could be given a similar priority, based upon the identical rationale. The federal government constructed and funded almost all the district works and should be entitled to a priority of use for its purposes such as the Everglades National Park.

The FCD enabling act was amended in 1963 to give it pollution control authority with regard to waters owned or maintained by the district.¹³³ A recent memorandum concerning wastewater discharges lists district works into which further wastewater discharge will be prohibited:

In the case of the District's works, water pollution and its various ramifications, form a broad category of effects. Low dissolved oxygen levels are created by organic wastes being discharged into waterways. The low dissolved oxygen levels create poor fish habitat, and can be a source of odor problems. Nutrients found in domestic waste discharges in particular, stimulate the growth of such aquatic nuisances as algae, floating, emergent and submergent water plants. These unwanted, at least in the magnitudes found to occur, aquatic growths, tend to restrict the resupply of oxygen to water, hinder movement of water in the canal, create odor and taste problems and can render a waterway virtually unusable from a recreational standpoint.

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Agricultural wastes, normal storm runoff and discharge from such operations as dairy and beef cattle feed lots are very important sources of potential water pollution for District works. Runoff from the extensive areas under cultivation,

¹³³Fla. Stat., § 378.01(4) (1969).

both farm and citrus crops, is a tremendous source of water potentially high in nutrients and organic material.¹³⁴

The determination to prohibit further wastewater discharge was based upon the flow conditions which exist in the canal, the ultimate disposal site and the problems which would be created if the discharge were allowed to continue. Among those works listed are four canals in Dade County for which a prohibition was suggested "as a consequence of their role as potential suppliers of water to Everglades National Park."¹³⁵ The memorandum states that:

First thoughts were to include all canals within the South Dade area. This idea had merit when considering ease of ground water contamination, some patterns of existing low D.O. (dissolved oxygen) and the potential for future pollution. I felt, however, that such a complete denial might cause the effectiveness of the wastewater discharge prohibition to decrease.¹³⁶

The conditions upon which the FCD acts are printed on the back of the permit application and have not yet been challenged in litigation. Maloney reviews the issues that may arise in a challenge of the validity of regulations

¹³⁴Wastewater Discharges to District Facilities, Memorandum from Jan E. Browning to W. V. Storch, Dept. of Engineering, C. & S.F.F.C.D., Nov. 9, 1970 at 1. See also memorandum from W. V. Storch to Exec. Dir., C. & S.F.F.C.D., Nov. 10, 1970.

¹³⁵C-102 (west of S-194); C-103 (west of S-196); C-111; C-113. Id. at 1, 2.

¹³⁶Id. at 4.

or orders of the FCD.¹³⁷ The FCD is filed under the Florida Administrative Procedure Act¹³⁸ which applies to "state agencies" and is designated a public corporation, by statute.¹³⁹ It has been designated a state agency despite the fact that it lacks state-wide jurisdiction.¹⁴⁰ An adverse order of the FCD could be attacked by mandamus, prohibition, or injunction under the Florida Administrative Procedure Act¹⁴¹ by a permittee and in an appropriate case, by Everglades National Park as an "aggrieved party," although it is not a permittee.

The FCD is authorized to effect multipurpose water administration so as to satisfy the water needs of the Park. The close relationship between consumptive use and pollution of water and the ever-present threat of drought in southern Florida, absent any consideration of the needs of the Park, dictate a reversal of the policy that resulted in the disposal of surface waters as excess of the needs of the Park. Maloney notes that:

. . . failure to plan properly for the test
that will come when drought or increased demand

¹³⁷F. Maloney [supra n. 2], at § 62.2(c).

¹³⁸Fla. Stat., § 120 (1969).

¹³⁹Fla. Stat., 378.01 (1969).

¹⁴⁰1959-60 Fla. Atty. Gen. Rep. 060-114; 1961-62 Fla. Atty. Gen. Rep. 062-115; 1965-66 Fla. Atty. Gen. Rep. 065-72, 066-19.

¹⁴¹Fla. Stat., § 120.31(4) (1969).

for agricultural and industrial uses raises eastern use patterns past the level of available supply could cause untold economic harm and set back the development of a sound water management program in a particular jurisdiction for many years. . . . Florida, along with the other eastern states, has long been fortunate in possessing ample water resources in relation to her existing needs. But the grace period in Florida may be almost over. Water levels have been critically low in the C&SFFCD for the past several years. A period of rationing to irrigators in the district could be impending. . . . It is to be hoped that the state will respond while there is still time to develop a comprehensive and fully integrated system of water management to serve the best interests of the entire state.¹⁴²

The authority of the FCD reviewed in this section should be exercised to achieve this goal.

B. Navigability As a Source of Federal Power

An examination of the United States Supreme Court's interpretations of the commerce clause of the United States Constitution,¹⁴³ suggests a basis for a national water resource program which is capable of averting future water shortages and significantly modifying existing common law riparian use doctrines.¹⁴⁴ The development of federal power in the water resources field by means of the determination of "navigability" under the Supreme Court's interpretation of "commerce" is significant with regard to

¹⁴²F. Maloney [supra n. 2], at 196-97.

¹⁴³U. S. Const., Art. 1.

¹⁴⁴F. Baldwin, Role of the Federal Government, Urban Environmental Problems, 19 (1967). Much of the discussion which follows is based upon this article.

to the water rights of the Everglades National Park for at least three reasons: (1) a determination of "navigability" determines those lands which passed to the state upon admission into the union; (2) a determination of "navigability" serves to define the limits or breadth of one basis of direct federal water regulatory power; (3) much of the language and reasoning utilized in this area, defining the nature of federalism, is applicable in most other areas of federal-state relations.

1. Supreme Court Interpretation of the Commerce Clause to Include Navigation

The Constitution grants Congress the power to "regulate commerce with foreign nations and among the several States. . . ." ¹⁴⁵ Rivers were the highways of the Middle Ages and have been the subject of active interest by the British Crown since the mid-fourteenth century to facilitate commercial traffic. ¹⁴⁶ It was not until 1824, however, that the United States Supreme Court interpreted the language of the commerce clause in Gibbons v. Ogden. ¹⁴⁷ The Court ruled that the federal government had the power to regulate navigation and navigable waters

¹⁴⁵U.S. Const., Art. 1, § 8.

¹⁴⁶E. Murphy [supra n. 77], at 110-11.

¹⁴⁷22 U.S. (9 Wheat.) 1 (1824).

as a regulation of commerce. This power was again upheld in Gilman v. Philadelphia¹⁴⁸ and expanded to include the power to take preventive measures to provide against obstructions to navigation.¹⁴⁹

a. First Test of Navigability

After concluding that the federal government could exercise authority in navigable waters, it was necessary to define "navigable." The test adopted in The Genesee Chief v. Fitzhugh in 1851 was one of "navigability in fact,"¹⁵⁰ and the Court elaborated upon this test in The Daniel Ball¹⁵¹ stating that:

. . . they are navigable in fact when they are used, or are susceptible to being used, in their ordinary condition, as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water.¹⁵²

The Court subsequently ruled in The Montello¹⁵³ that the potential or capability of use by the public was the true criterion of navigability.

In a series of subsequent cases, the court left to the federal government the power to determine whether an

¹⁴⁸70 U.S. (3 Wall) 713 (1865).

¹⁴⁹Id. at 725.

¹⁵⁰53 U.S. (12 How.) 443 (1851).

¹⁵¹177 U.S. (10 Wall.) 557 (1870).

¹⁵²Id. at 563.

¹⁵³87 U.S. (20 Wall.) 430 (1874).

obstruction affected interstate commerce on a navigable stream so as to require its removal.¹⁵⁴ Baldwin notes that:

By 1876, the rule had been crystallized to a fine degree of constitutional interpretation. There was no real objection by the states to the fact that the Supreme Court interpreted federal power to regulate commerce as including jurisdiction over navigable streams in order to protect and effectuate interstate commerce. This permitted the federal government to control all navigable waters of the United States that were capable of affecting watercourses in a state other than their place of origin.¹⁵⁵

b. Initial Impact upon Nonnavigable Streams

The issue regarding the rights and powers of the federal government in portions of streams which were obviously nonnavigable arose in United States v. Rio Grande Dam & Irr. Co.¹⁵⁶ The federal government sought to restrain construction of a dam on a nonnavigable section of the Rio Grande River. The Supreme Court agreed that the portion to be dammed was nonnavigable but read the statute then in effect¹⁵⁷ to prohibit all obstructions whether they occur

¹⁵⁴E.g. *South Carolina v. Georgia*, 93 U.S. (3 Otto) 4 (1876); *The Clinton Bridge*, 77 U.S. (10 Wall.) 454 (1870).

¹⁵⁵F. Baldwin [*supra* n. 144], at 25.

¹⁵⁶174 U.S. 690 (1899).

¹⁵⁷"The creation of any obstruction not affirmatively authorized by law, to the navigable capacity of any waters, in respect of which the United States has jurisdiction, is hereby prohibited. The continuance of any such obstruction, except bridges, piers, docks and wharves, and similar structures erected for business purposes, whether heretofore or hereafter created, shall constitute an offense. . . ." Act of Sept. 19, 1890, ch. 907 § 26 Stat. 454.

on a navigable or nonnavigable stream or tributary if it can be shown that they in any way impede the navigable capacity of the stream which is under the jurisdiction of the United States by its navigability. The power under the commerce clause had thus been extended to permit the federal government to remove obstructions and otherwise regulate activities on nonnavigable tributaries of navigable streams in order to maintain the navigable capacity of waters and thereby facilitate interstate and foreign commerce. The test of "navigability in fact" was further expanded in Economy Light & Power Co. v. United States¹⁵⁸ to include waters which were originally navigable but subsequently became nonnavigable.¹⁵⁹

Baldwin notes that:

The result was that the government assumed almost unlimited jurisdiction over all waters, provided it could be shown that federal interest in navigation was affected.¹⁶⁰

c. Second Test of Navigability

In U.S. v. Appalachian Electric Power Co.¹⁶¹ the Supreme Court established a new and far-reaching test of navigability to correspond with the increasing federal activity in the field of flood control, hydroelectric power

¹⁵⁸256 U.S. 113 (1921).

¹⁵⁹And see, United States v. Holt State Bank, 270 U.S. 49 (1926).

¹⁶⁰F. Baldwin [supra n. 144], at 27-28.

¹⁶¹311 U.S. 377 (1940).

projects, reclamation and navigational improvements. The new test looked to the potential availability for navigation of the waters.¹⁶² Federal power of control under this test is not limited to navigation but extends to the federal government's utilization of all waterways in the best interest of the nation.¹⁶³ The Court under this test determines whether the waters could be made navigable by improvements, even though there have been long periods of disuse and no "navigability in fact" and looks to the intent of Congress for the justification for improvements to nonnavigable waters which would make them navigable. Although navigability to fix ownership of the river bed or riparian rights is determined as of the formation of the union for the original states or the admission of those formed later, navigability for the purpose of the regulation of commerce may arise at a later date.¹⁶⁴

The courts have applied this test and held that navigable waters include waterways which either in their natural or improved condition are used, or can be used, for floating light boats or logs, even though the waterway may be obstructed by falls, rapids, sand bars, currents, etc., and even though the waterway has not been used for

¹⁶²Id. at 405, 409.

¹⁶³Id. at 407 .

¹⁶⁴Id. at 377.

navigation for many years.¹⁶⁵ Referring to Oklahoma v. Atkinson¹⁶⁶ which established that flood control and stream flow regulations were within the constitutional powers of Congress, Baldwin notes that:

The Court held that federal power under the commerce clause includes regulation and control of the waters of a nonnavigable tributary so long as it will serve the interests of navigation on navigable streams. All other incidental purposes would also be permitted since the Court would not look behind the apparent intent of Congress to discover the real purpose of the dam.¹⁶⁷

2. The Dominant Federal Servitude

a. Along Navigable Waters

In improving navigability, the federal government exercises a dominant servitude with respect to use of those waters and has not generally been held liable for injuries to private property resulting from regulation and improvement of navigable waters.¹⁶⁸ This doctrine applies only when the injured riparian is situated on the particular stream subjected

¹⁶⁵Wisconsin Public Service Corp. v. Federal Power Commission, 147 F.2d 743 (CA7, 1945) cert. den. 325 U.S. 880; Wisconsin v. Federal Power Commission, 214 F.2d 334 (CA7, 1954) cert. den. 348 U.S. 883 (1954); Namekagen Hydro Co. v. Federal Power Commission, 216 F.2d 509 (CA7, 1954); Puente de Reynosa, S.A. v. City of McAllen, 357 F.2d 43, 50-51 (CA5, 1966); Rochester Gas and Electric Corp. v. Federal Power Commission, 344 F.2d 594 (CA2, 1965).

¹⁶⁶313 U.S. 508 (1941).

¹⁶⁷F. Baldwin [supra n. 144], at 30-31 (Emphasis added).

¹⁶⁸E.g. Gibson v. United States, 166 U.S. 269, 272 (1897).

to improvement.¹⁶⁹ The Supreme Court ruled in United States v. Cress¹⁷⁰ that compensation may be awarded to a riparian owner along nonriparian waters if it is shown that the nonnavigable tributary did not in any way fit into the federal plan for the reclamation and improvement of the particular navigable stream.¹⁷¹ The language and rule of the decision in Cress has been confined to the facts of the case, and, as Baldwin notes, if the principle set forth in Cress were to be expanded or relied upon in similar factual situations, the dominant federal servitude would prove to be a costly power.¹⁷² The Court attempted to develop a doctrine under which owners of both navigable and nonnavigable lands affected by federal projects would be treated equally in United States v. Kansas City Life Insurance Co.¹⁷³ The Court's five to four decision held the United States liable for damage to agricultural owners on a nonnavigable tributary when drainage was impeded by a federally constructed dam of navigable waters, causing the water level of a non-navigable tributary to rise. The minority opinion could

¹⁶⁹United States v. Chicago, M., St. P. & Pac. R.R., 312 U.S. 592 (1941).

¹⁷⁰243 U.S. 316 (1917).

¹⁷¹Id. at 321-22

¹⁷²F. Baldwin [supra n. 144], at 31; and see, United States v. Willow River Power Co., 324 U.S. 499 (1945).

¹⁷³339 U.S. 799 (1950).

not justify awarding damages to owners on nonnavigable tributaries while denying them to owners on navigable waters.¹⁷⁴ The majority relied upon Cress to distinguish between nonnavigable and navigable property owners. The obligation of the federal government to compensate riparian owners along navigable waters was further limited in United States v. Twin City Power Co.¹⁷⁵ but the problem of whether the dominant servitude of the federal government extended to nonnavigable waters remained until the Court's decision in United States v. Grand River Dam Authority¹⁷⁶ and was resolved only by inference from the Court's holding.

b. Along Nonnavigable Waters

In Grand River a state Authority was denied compensation for the value of the water power and the franchise to develop electric power and energy which it argued were taken when the federal government incorporated the Authority's dam site into a federal navigation, flood control and power project. The Court indicated that the federal powers extend to the tributaries of navigable streams and that riparian rights are subservient to those of the federal government. A hazy area still remains with

¹⁷⁴Douglas, J. dissenting, Id. at 812-14.

¹⁷⁵350 U.S. 222 (1956).

¹⁷⁶363 U.S. 229 (1960).

regard to the obligation of the federal government to compensate riparian owners on nonnavigable waters for an interference with their rights which is only incidental to the project authorized by Congress and not specifically designated as necessary to the improvement of navigation or other federal purpose. Maloney suggests that the Court has indicated that Congress could abolish all private rights in navigable streams and could do the same, under the commerce clause, for nonnavigable streams which connect with navigable waters and that it is not inconceivable that the distinction between navigable and nonnavigable streams could be practically eliminated where the national interest was involved.¹⁷⁷

3. Navigability Under Florida Law

It should be noted that the State of Florida exercises some authority with respect to navigable waters of the state but that the exercise of this authority is subject to the dominant federal servitude discussed above.

Florida became, by virtue of its sovereignty, the owner for the benefit of its inhabitants of all lands under bodies of navigable water and tide lands within its territorial limits when it was admitted into the union as a state. State laws regulate the rights of riparian owners

¹⁷⁷ F. Maloney, S. Plager, F. Baldwin, *Water Law and Administration, the Florida Experience*, 230-33 (1968).

with reference to these waters subject to the dominant federal servitude.¹⁷⁸ The test of "navigability" in Florida is similar to the federal test, relying upon potential or capacity for use rather than actual commercial or other usage. In Broward v. Mabry,¹⁷⁹ the Florida Supreme Court stated that:

Whether the lake has been used for commercial purposes or not is immaterial, if it may be made useful for any considerable navigation or commercial intercourse between the people of a large area.¹⁸⁰

Yet the court appears to have limited this language and the potentiality test in Baker v. State¹⁸¹ in which it said that a stream is not navigable if it is so difficult to get a row boat over it that "one had to push, cuss and holler at the same time to make it go."¹⁸²

The legislature of Florida has not attempted a general legislative definition of navigability and legislation has been limited to early special acts declaring specific bodies of water to be navigable.¹⁸³ The waters supplying the Everglades National Park have not been the

¹⁷⁸Shively v. Bowlby, 152 U.S. 1, 14 S. Ct. 546, 38 L. Ed. 331 (1894); Broward v. Mabry, 58 Fla. 398, 50 So. 826 (1909).

¹⁷⁹58 Fla. 398, 50 So. 826 (1909).

¹⁸⁰Id. at 412, 50 So. at 831.

¹⁸¹87 So.2d 497 (1956).

¹⁸²Id. at 498.

¹⁸³See Gaitanis, Florida Watercourses Declared Navigable, 39 Fla. B. J. 1116 (1965).

subject of such legislation.

Maloney notes that the single exception to this pattern was an act of the legislature in 1953¹⁸⁴ which defined riparian rights. This provision was inserted by the statutory revisers under the section relating to grants to riparian owners so that the section provides that:

Navigable waters in this state shall not be held to extend to any permanent or transient waters in the form of so-called lakes, ponds, swamps, or overflowed lands, lying over areas which have heretofore been conveyed to private individuals by the United States or by the state without reservation of public rights in and to said waters.¹⁸⁵

Maloney notes that:

In effect, the language purported to render nonnavigable as a matter of law those waters lying over the specified submerged lands previously conveyed to private individuals. Reservation of public rights in the conveyance provided the single exception.¹⁸⁶

The effect and significance of this section is not yet certain but at least two cases have held that the section was originally a tax provision and refused to hold that the section operated to render a deed the determining factor with regard to navigability.¹⁸⁷

¹⁸⁴Fla. Laws, Ch. 28262, § 1 (1953).

¹⁸⁵Fla. Stat., § 271.09(2) (1969). See F. Maloney [supra n. 127], at 44-51 for a detailed discussion of this subject.

¹⁸⁶Id. at 46.

¹⁸⁷McDowell v. Trustees of Internal Improvement Fund, 90 So.2d 715 (1956) that a deed did not make a lake nonnavigable

4. Application to the Water Rights of the Everglades National Park

a. Navigability and Federal Interest in Waters Flowing to the Park

The distinction between navigable and non-navigable waters is becoming less significant with regard to the rights of use of waters. Yet a determination of navigability is still significant because it serves as a generally recognized basis for federal regulation and intervention in the field of water management. The interests of the Everglades National Park would be more secure were the waters of the Kissimmee-Okeechobee-Everglades drainage basin declared navigable, thereby permitting the federal government to regulate water resource use so as to safeguard the interests of the Park.

Friends of the Park have, at various times, contemplated establishing the factual basis for a determination of navigability but this strategy has not been pursued. An examination of the history of the area reveals that such a basis may already exist. The Report of Buckingham Smith which was accepted by both federal and state decision-makers referred to the waters of this

as a matter of law; *Adams v. Crews*, 105 So.2d 584 (2d D.C.A. Fla. 1958) that section 271.09(2) had no application where defendant claimed that deed rendered his portion of a fresh-water lake nonnavigable.

region as moving, ". . . almost imperceptibly . . . in a mass, silently and slowly to the southward" and noted that a canoe or light batteau was the only means to traverse the region.¹⁸⁸ Tebeau discusses early modes of water-borne travel through the region and the commerce which was based upon the production of tannic acid from mangrove bark and charcoal from buttonwood along Lostmans River, Chatham River, Shark River and elsewhere.¹⁸⁹ The regular and defined course of these flowing waters, some of which have supported commercial and recreational travel may satisfy the tests for navigability discussed above.¹⁹⁰ The potential of the waters of much of this area to be rendered navigable by improvements may also satisfy the most recent tests of navigability. A survey and plat of lands granted under the Swamp and Overflowed Lands Act of 1850 raises a strong presumption against the navigability of the surface waters covering those lands,¹⁹¹ and a perfected grant with

¹⁸⁸ Everglades of Florida, Acts, Reports, and Other Papers, State and National, Relating to the Everglades of the State of Florida and Their Reclamation, S. Doc. No. 89, 62d. Cong., 1st Sess., 51-52 (1911). Quoted in Chapter I text at notes 48-53 supra.

¹⁸⁹ C. Tebeau, *They Lived in the Park*, 4, 46, 54, passim (1963).

¹⁹⁰ Public use includes recreational use as a significant factor and commercial navigability can be proved by personal or private use of boats upon the water, *U.S. v. Appalachian Electric Power Co.*, 311 U.S. 377 (1940).

¹⁹¹ *Toledo Liberal Shooting Co. v. Erie Shooting Club*, 90 F. 680 (33 C.C.A.) (Mich. 1898).

a list of lands conveyed evidences at least that the lands included were swamp lands and passed to the state under the grant.¹⁹² Yet this presumption of nonnavigability may be overcome in federal court in light of the new understanding and evidence regarding the nature and function of these waters. Although the grant by the federal government may have determined that the waters were nonnavigable for the purpose of fixing ownership to the inundated lands, navigability for purposes of regulating commerce or other federal purposes may be subsequently determined.¹⁹³ The United States Supreme Court has ruled that:

Navigability, when asserted as the basis of a right arising under the Constitution of the United States, is necessarily a question of federal law to be determined according to the general rule recognized and applied in the federal courts.¹⁹⁴

The navigability of the waters of the southern Florida watershed and the rights of the Everglades National Park as a riparian owner involve an issue concerning the rights conveyed by the federal grant of swamp and overflowed lands of 1850. This is a federal question to be decided under federal law. The waters of the western portion

¹⁹²Page County v. Burlington, etc., R. Co., 40 Iowa 520 (1875).

¹⁹³Cf. U.S. v. Appalachian Electric Power Co., 311 U.S. 377 (1940).

¹⁹⁴U.S. v. Holt State Bank, 270 U.S. 49, 55, 56 (1926); see also, State v. Bollenbach, 241 Minn. 103, 63 N.W.2d 278 (1954); State v. Adams, 251 Minn. 521, 89 N.W.2d 661 (1957).

¹⁹⁵Hughes v. State of Washington, 389 U.S. 290, 88 S. Ct. 438, 19 L. Ed. 2d 530 (1967).

of the watershed could be determined to be navigable or nonnavigable but under the regulatory power of the federal government. The great majority if not all of the canals of the Central and Southern Florida Flood Control District, in the eastern portion of the watershed, are navigable under the federal tests. Many are used for recreational boating and navigable in fact. Most others are potentially navigable. Even if this were not the case, the canals fall within the class of waters which are subject to federal control as an incidental benefit or activity of a navigation project.¹⁹⁶ Indeed, the federal purposes of the district were more than incidentally related to the preservation of the Everglades National Park. The Report of the Chief of Engineers of the U.S. Army Corps of Engineers proposing the project stated that:

The plan of improvement has also been developed in full recognition of the importance of the Everglades National Park which has been established recently. Release of water from conservation storage will assist in restoring and maintaining natural conditions within the national park area, by reducing damage from drought. . . .¹⁹⁷

The Comprehensive Plan submitted to Congress for authorization of the project in 1948 noted that:

In brief, it is believed that this comprehensive water control plan and the national park plan are complementary features of Federal activity necessary to restore and preserve the unique

¹⁹⁶ See text at notes 161-67.

¹⁹⁷ H. R. Doc. No. 643 [supra n. 120], at 4.

Everglades region.¹⁹⁸

The waters of the district should therefore be subject to federal regulation and control in the interest of the Everglades National Park under the navigation powers discussed above.

b. Rivers and Harbors Act of 1899

A slightly different approach looks to the federal powers over navigable waters but focuses upon the fact that the watersheds supplying the Park with fresh-water are also the watersheds of navigable waters. Activities which threaten the quantity and quality of the water flowing to the Park also threaten the "navigability" of those waters. This approach does not require a determination that the surface waters of the watersheds are navigable in order for the federal government to exercise regulatory powers.

The power of the federal government to prohibit all obstructions to navigation, whether they occur on a navigable or nonnavigable stream was established in United States v. Rio Grande Dam & Irr. Co.¹⁹⁹ The federal government need only show that the obstructions impede the navigable capacity of the stream. The Supreme Court read a statute of 1890 as authorizing the federal government to

¹⁹⁸Id. at 57.

¹⁹⁹174 U.S. 690 (1899).

exercise broad regulatory functions with regard to commerce.²⁰⁰ The scope of "navigability" was expanded by subsequent cases discussed above and the scope of the statutory authorization was similarly expanded. Congress declared, in amending the Rivers and Harbors Act of 1890 that:

. . . the term "commerce" shall include the use of waterways by seasonal passenger craft, yachts, houseboats, fishing boats, motor boats, and other similar water craft, whether or not operated for hire.²⁰¹

Florida Bay, the Gulf of Mexico, Biscayne Bay and the Atlantic Ocean are all navigable waters which depend upon and are affected by changes in water quantity and quality flowing through the Kissimmee-Okeechobee-Everglades drainage basin. The canals and conservation areas of the FCD as well as rivers and bays throughout the Park are used extensively for recreational fishing and boating purposes. Such use would satisfy the statutory definition of "commerce." The Rivers and Harbors Act of 1899 offers a statutory basis for federal regulation of southern Florida water resources. The importance of the statute in this context warrants an examination of its provisions and the relevant case law interpreting it with regard to

²⁰⁰Act of Sept. 19, 1890, Ch. 907, § 10, 26 Stat. 454, quoted at note 157 supra.

²⁰¹32 Stat. 372 (1902), 33 U.S.C. 541 (1964).

its ability to secure the requisite quality and quantity of waters flowing to the Park.

i. Quantity of Water-Obstruction of
Navigable Capacity

Section 10 of the Rivers and Harbors

Act of 1899²⁰² provides that:

The creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States is prohibited; and it shall not be lawful to build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty, or other structures in any port, roadstead, haven, harbor, canal, navigable river, or other water of the United States, outside established harbor lines, or where no harbor lines have been established, except on plans recommended by the Chief of Engineers and authorized by the Secretary of the Army; and it shall not be lawful to excavate or fill, or in any manner to alter or modify the course, location, condition, or capacity of, any port, roadstead, haven, canal, lake, harbor or refuge, or inclosure within the limits of any breakwater, or of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army prior to the beginning the same.

It may be argued that any facility or drainage work which causes reduction in quantity of water reaching the navigable bodies of water which include Florida Bay, the Gulf of Mexico and the many rivers and bays of the Everglades National Park, constitutes an obstruction to the navigable capacity of waters of the United States and is prohibited unless affirmatively authorized by

²⁰²30 Stat. 1121, 1151, as amended 33 U.S.C., § 403 (1964).

Congress or in certain cases recommended by the Chief of Engineers and authorized by the Secretary of the Army.

This argument based upon section 10 of the Act was rejected by the District Court for the Southern District of Texas in United States v. Brazoria County Drainage District No. 3.²⁰³ The United States sought an injunction to abate, as a public nuisance, the operation of a drainage district which discharged eroded soil into navigable waters through a drainage ditch without a permit. The discharge resulted in the gradual buildup of soil on the bottom of the waterway. The Court reasoned that such drainage operations were not "structures" for which a permit was required by section 10 and stated:

That these statutes prohibit the erection of structures in navigable streams, unless the plans therefor have been approved by the War Department, and authorize the removal of such structures placed without such approval, is plain. That they do not apply to washing or erosion caused by drainage, and that the prohibitory features of the statutes cannot be distorted so as to cover the operations of drainage districts, is equally plain.²⁰⁴

This language was quoted with approval by the Seventh Circuit Court of Appeals in United States v. Republic Steel Corp.²⁰⁵ in which the United States was denied injunctive relief to abate the discharge and deposit of industrial

²⁰³2 F.2d 861 (1925).

²⁰⁴Id. at 862.

²⁰⁵264 F.2d 289 at 296 (1959).

solids and flue dust in navigable waters. The United States Supreme Court reversed the Seventh Circuit and the language of the Court in United States v. Republic Steel Corp.²⁰⁶ lends persuasive support to the argument that drainage operations which discharge solids into navigable waters require a permit from the Corps of Engineers.

The Court reviewed the history of the Rivers and Harbors Act and rejected the argument of defendants that industrial deposits placed in the waters were not a "structure" and therefore not an "obstruction" within the terms of the Act.

It is argued that "obstruction" means some kind of structure. The design of § 10 should be enough to refute that argument, since the ban of "any obstruction," unless approved by Congress, appears in the first part of § 10, followed by a semicolon and another provision which bans various kinds of structures unless authorized by the Secretary of the Army.

The reach of § 10 seems plain. Certain types of structures, enumerated in the second clause, may not be erected "in" any navigable river without approval by the Secretary of the Army. Nor may excavations or fills, described in the third clause, that alter or modify "the course, location, condition, or capacity of "a navigable river be made unless "the work" has been approved by the Secretary or the Army. There is, apart from these particularized invasions of navigable rivers . . . the generalized first clause which prohibits "the creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity" of such rivers. We can only conclude that Congress

²⁰⁶ 362 U.S. 482, 80 S. Ct. 884, 4 L. Ed. 2d 903 (1960).

planned to ban any type of "obstruction," not merely those specifically made subject to approval by the Secretary of the Army. It seems, moreover, that the first clause being specifically aimed at "navigable capacity" serves an end that may at times be broader than those served by the other clauses. Some structures mentioned in the second clause may only deter movements in commerce, falling short of adversely affecting navigable capacity. And navigable capacity of a waterway may conceivably be affected by means other than the excavations and fills mentioned in the third clause. . . . In short, the first clause is aimed at protecting "navigable capacity," though it is adversely affected in ways other than those specified in the other clauses.²⁰⁷

This rejection of the Seventh Circuit's rationale would seem to reject, by implication, the reasoning of the District Court in Brazoria as well and leave the deposits from drainage districts within the class of "obstructions" proscribed by § 10. The Court in U.S. v. Republic Steel Corp. cited the opinion in United States v. Rio Grande Irrigation Co., and other cases as authority for this interpretation of § 10.

. . . the Court in United States v. Rio Grande Irrigation Co. . . . gave the concept of "obstruction," as used in § 10, a broad sweep: "It is not a prohibition of any obstruction to the navigation, but any obstruction to the navigable capacity, and anything, wherever done or however done, within the limits of the jurisdiction of the United States which tends to destroy the navigable capacity of one of the navigable waters of the United States, is within the terms of the prohibition." This broad construction . . . was carried over . . . in Sanitary District v. United States.²⁰⁸

²⁰⁷Id. at 488-89.

²⁰⁸Id. at 489 (Emphasis supplied; footnotes omitted.)

In the Rio Grande case the Court interpreted the 1890 statute, which was essentially the same as that of 1899 in this regard, to authorize an injunction against an obstruction in nonnavigable waters which affected the navigable capacity of navigable waters downstream. The Court stated that:

. . . Evidently Congress, perceiving that the time had come when the growing interests of commerce required that the navigable waters of the United States should be subjected to the direct control of the National Government, and that nothing should be done by any State tending to destroy that navigability without the explicit assent of the National Government, enacted the statute in question. And it would be to improperly ignore the scope of this language to limit it to the acts done within the very limits of navigation of a navigable stream.²⁰⁹

Diversion of the waters of a navigable body of water was held to violate § 10 in Sanitary District v. United States²¹⁰ in which the Court enjoined the diversion of waters under the first and third clauses and stated that:

Evidence is sufficient, if evidence is necessary, to show that a withdrawal of water on the scale directed by the statute of Illinois threatens and will affect the level of the lakes, and that is a matter which cannot be done without the consent of the United States. . . .²¹¹

The diversion of waters by drainage districts threatens and adversely affects the level and condition of both navigable and nonnavigable waters of southern Florida and

²⁰⁹U.S. v. Rio Grande Irrigation Co., 174 U.S. 690, 708 (1899).

²¹⁰266 U.S. 405, 45 S. Ct. 176, 69 L. Ed. 352 (1925).

²¹¹Id. at 266 U.S. 405, 426.

adversely affects the ecology of the Park which is a matter of direct concern to the federal government.

The Court ruled in U.S. v. Republic Steel that the federal government could obtain relief by injunction against a violation of § 10 although the statute did not specifically provide for such relief, and stated that:

The test was whether the United States had an interest to protect or defend. Section 10 of the present Act defines the interest of the United States which the injunction serves. . . . Congress has legislated and made its purpose clear; it has provided enough federal law in § 10 from which appropriate remedies may be fashioned even though they rest on inferences. Otherwise we impute to Congress a futility inconsistent with the great design of this legislation.²¹²

The interest of the federal government in the navigable capacity of the waters of the United States is clear but there is also the interest of the United States in the Park and in a quality environment under the National Environmental Policy Act of 1969.²¹³ This combination of legitimate federal interests should prove sufficient to justify relief by injunction against unauthorized diversion of waters or other activities which impair the navigable capacity of waters of the United States and also damage the ecology of the Park.

ii. Quality of Water - Deposit of Refuse

Section 13 of the Rivers and Harbors Act

²¹²362 U.S. 482, 490.

²¹³Pub. L. 91-190, 42 U.S.C.A. §§ 4331-47 (Supp. 1971).

of 1899²¹⁴ provides:

It shall not be lawful to throw, discharge, or deposit, or cause, suffer, or procure to be thrown, discharged, or deposited either from or out of any ship, barge, or other floating craft of any kind, or from the shore, wharf, manufacturing establishment, or mill of any kind, any refuse matter of any kind or description whatever other than that flowing from streets and sewers and passing therefrom in a liquid state, into any navigable water of the United States, or into any tributary of any navigable water from which the same shall float or be washed into such navigable water; and it shall not be lawful to deposit, or cause, suffer- or procure to be deposited material of any kind in any place on the bank of any navigable water, where the same shall be liable to be washed into such navigable water, either by ordinary or high tides, or by storms or floods, or otherwise, whereby navigation shall or may be impeded or obstructed: Provided, That nothing herein contained shall extend to, apply to, or prohibit the operations in connection with the improvement of navigable waters or construction of public works, considered necessary and proper by the United States officers supervising such improvement or public work: And provided further, That the Secretary of the Army, whenever in the judgment of the Chief of Engineers anchorage or navigation will not be injured thereby, may permit the deposit of any material above mentioned in navigable waters, within limits to be defined and under conditions to be prescribed by him, provided application is made to him prior to depositing such material: and whenever any permit is so granted the conditions thereof shall be strictly complied with, and any violation thereof shall be unlawful.²¹⁵

This section, known as the Refuse Act, has received attention recently after laying relatively dormant since its enactment.²¹⁶

²¹⁴30 Stat. 1151, 33 U.S.C. 407.

²¹⁵Emphasis added (except for words "Provided," and "And provided further," which were emphasized in original.

²¹⁶For discussion of the potential use of this section, see House Comm. on Government Operations, Subcomm. on Conservation and Natural Resources, Our Waters and Wetlands: How the Corps of Engineers Can Help Prevent Their Destruction and Pollution, H. R. Rep. No. 91-917, 91st Cong., 2d Sess., (1970) [hereinafter cited as H. R. Rep. No. 91-917] and Comm. on Government Operations, Subcomm. on Conservation and Natural

In United States v. Republic Steel Corp. the United States Supreme Court found that particles in the industrial effluent of defendant's plant affected the navigable capacity of navigable waters by settling on the bottom and clogging the channel, thereby violating section 10 of the Act prohibiting obstructions to navigable waters.²¹⁷ Deposits from drainage districts and other sources could be controlled this way. Yet the prohibition of § 13 has been given an even broader scope than § 10. The Court has ruled that the prohibition of discharges into navigable waters in the first clause of § 13 is not limited, as is the offense of depositing material on banks of navigable waters, by the language in the second clause reading "whereby navigation shall or may be impeded or obstructed."²¹⁸ Unlike violations of § 10, no effect upon navigation or navigable capacity need be shown to establish a violation of the first clause of § 13.

"Refuse" includes industrial fuels and chemicals

Resources, Qui Tam Actions and the 1899 Refuse Act, 91st Cong., 2d Sess. (1970) [hereinafter cited as Report of Comm. on Government Operations.] Much of the discussion which follows is based upon these Reports. See also Tripp and Hall, Federal Enforcement Under the Refuse Act, 35 Alb. L. Rev. No. 1, 60 (1970).

²¹⁷362 U.S. 482, 80 S. Ct. 884, 4 L. Ed.2d 903 (1960).

²¹⁸La Merced (United States v. Alaska Southern Packing Co.) 84 F.2d 444, 445-46 (C.A. 9, 1936).

which were commercially valuable at the time they were deposited.²¹⁹ The Court ruled in United States v. Standard Oil Co. that:

The word "refuse" includes all foreign substances and pollutants apart from those "flowing from streets and sewers and passing therefrom in a liquid state" into the water-course.²²⁰

Discharge from non-municipal sewers of industrial wastes containing suspended solids which settled into navigable waters were held to violate § 13 in United States v. Republic Steel Corp.²²¹

All matter in suspension is not saved by the exception clause in § 13. Refuse flowing from "sewers" in a "liquid state" means to us "sewage." . . . The fact that discharges from streets and sewers may contain some particles in suspension that settle out and potentially impair navigability is no reason for us to enlarge the group to include these industrial discharges. We follow the line Congress has drawn and cannot accept the invitation to broaden the exception in § 13 because other matters "in a liquid state" might logically have been treated as favorably as sewage is treated

Although the offense of depositing material on the banks of navigable waters is limited by the requirement that it impede the navigable capacity of the waters, a deposit by indirection is not so limited. The Supreme Court held that

²¹⁹Id.; United States v. Ballard Oil Co. of Hartford, Inc., 195 F.2d 369, 372 (C.A.2, 1952); United States v. Standard Oil Co., 384 U.S. 224 (1966).

²²⁰United States v. Standard Oil Co., 384 U.S. 224, 230 (1966). (Emphasis added).

²²¹362 U.S. 482, 490, 80 S. Ct. 884, 4 L. Ed.2d 903 (1960).

the Act was violated by allowing oil to spill from storage tanks on the shore and flow "indirectly," over land by force of gravity, into navigable waters.²²² These cases suggest that the deposit of pesticides, fertilizers, soil, agricultural or livestock feed and wastes and "any refuse matter of any kind or description whatever" other than the narrow exception for municipal sewers, violates the Act. Such a deposit into FCD canals or other navigable waters is a clear violation but a deposit which reaches the waters by flowing from the banks of such waters is also a violation, as is any discharge or deposit of refuse "into any tributary of any navigable water from which the same shall float or be washed into such navigable water." This section of the Act would seem to apply to any deposit into the waters of the Kissimmee-Okeechobee-Everglades drainage basin which may reach navigable waters. The discussion in Chapter I noted that most of the waters in this drainage basin do ultimately reach navigable waters. Unpermitted direct or indirect deposits into these waters would therefore be proscribed by the Act.

²²²United States v. Ballard Oil Co. of Hartford, Inc., 195 F.2d 369 (C.A. 2, 1952); see also United States v. Esso Standard Oil Company of Puerto Rico, 375 F.2d 621 (C.A. 3, 1967). The violation occurs even though not intentionally, negligently or knowingly: United States v. Interlake Steel Corp., 297 F. Supp. 912 (D.C., N.D., Ill. E.D. 1969); The President Coolidge (Dollar S.S. Co. v. United States), 101 F.2d 638 (C.A. 9 1939).

The Committee on Government Operations notes that the Refuse Act is an appealing technique to prevent and cease pollution because it does not suffer from the weaknesses of the Federal Water Pollution Control Act,²²³ which contains various limitations upon the jurisdiction and enforcement powers of the federal government.

For example, it requires water quality standards only for interstate waters. Furthermore, it provides that discharges of wastes into interstate waters which reduce their quality below established water quality standards are subject to abatement only after notice and a waiting period of at least 180 days. . . . Moreover, the court in such abatement proceedings need not confine itself to examining the issues of law and facts, but is authorized to give "due consideration to the practicability and to the physical and economic feasibility of complying" with the established water quality standards, as well as reviewing the standards themselves.²²⁴

The Federal Water Pollution Control Act specifically states that it "shall not be construed as (1) superseding or limiting the functions, under any other law--of any officer or agency of the United States, relating to water pollution, or (2) affecting or impairing the provisions of sections 13 through 17 of the" Rivers and Harbor Act of 1899--the Refuse Act.²²⁵

²²³33 U.S.C. 466

²²⁴H. R. Rep. No. 91-917 [supra n. 216], at 16.

²²⁵33 U.S.C. § 466 (Supp. IV 1969). See United States v. Interlake Steel Corp., 297 F. Supp. 912, 916 (D.C., N.D., Ill. E.D. 1969) in which the Court ruled that there was no direct conflict in finding violators of effluent standards guilty when their pollution complies with water quality standards.

Similarly, the Oil Pollution Act, 1924, specifically provided that it "shall be in addition to other laws for the preservation and protection of navigable waters of the United States and shall not be construed as repealing, modifying, or in any manner affecting the provisions of such laws."²²⁶

Compliance with state water quality standards would be no defense to prosecution for a violation of the Refuse Act and neither, by analogy, would the permits to discharge into FCD canals issued under the FCD procedures discussed above.²²⁷ Nor should permits to withdraw water from those navigable waters be a defense to an action under § 10 for an obstruction to navigation resulting from lowering of the water levels and modifying or altering the condition of the navigable waters.

Permits could be required for discharges into waters flowing to the Park as well as for diversion and withdrawal of such waters under §§ 10, 13 of the Refuse Act. Section 21 of the Federal Water Pollution Control Act²²⁸ now requires that applicants for federal permits to conduct an activity which would result in any discharge into navigable waters must provide the licensing authority

²²⁶33 U.S.C. § 437 (Supp. IV, 1969).

²²⁷Text at notes 131-36 supra.

²²⁸84 Stat. 91

with certification from the state in which the discharge originates that there is reasonable assurance that the activity will not violate state water quality standards. Discharges from agricultural and drainage districts ultimately reach navigable waters. Where the proposed activity would violate state standards, the Corps of Engineers would have clear authority to deny the permit application. But even where the proposed activity complied with such standards, the Corps could still deny the application.²²⁹ In United States ex rel. Greathouse v. Dern²³⁰ the Court upheld the Secretary of the Army's refusal to authorize construction of a wharf for reasons unrelated to navigation.²³¹ Authority for denial of a permit for activities which threatened to cause damage to the ecology of the Park is found in the Fish and Wildlife Coordination Act of 1958²³² providing for consultation between the Department of the Army and the Department of the Interior and the decision of the Fifth Circuit Court of Appeals in Zabel v. Tabb²³³ upholding the denial by the

²²⁹U.S. v. Interlake Steel Corp., 297 F. Supp. 912 (D.C., N.D. Ill. E.D. 1969).

²³⁰289 U.S. 352 (1933).

²³¹Allowing a wharf to be built would increase the market value of the land which the federal government planned to condemn for use as a means of access to a proposed parkway, a federal interest.

²³²16 U.S.C. §§ 661-66 (1964).

²³³430 F.2d 199 (5th Cir. 1970) (cert. denied 91 S.Ct. 873) (February 22, 1971).

Secretary of the Army of a permit to dredge and fill under § 10 because of the adverse effect of the proposed activity upon the ecology of the area.

Yet the tremendous potential effectiveness of the permit requirement of the Refuse Act is apparently not going to be realized. The Corps of Engineers has only recently begun to establish procedures whereby permits to discharge into navigable waters may be issued.²³⁴ Most, if not all, current discharges are unlawful under § 13 since they are unpermitted. The Corps is currently establishing procedures under which it will issue such permits but it is not at all certain that the Corps plans to require permits for discharges into the tributaries and navigable waters of concern in this context. The failure of the federal government to explore the full potential of the Act in this respect is apparent in the recent executive order concerning administration of permits under the Refuse Act.²³⁵ That order reflects a decision to limit the application of the Act to situations where navigable capacity is obstructed and to rely upon the water quality standards of the Federal Water Pollution

²³⁴personal communication from A. L. McKnight, Chief, Operations Division, Jacksonville District, Corps of Engineers, August 24, 1970, in response to request for list of permits issued for outfalls into Miami River and Coral Gables Waterway.

²³⁵Exec. Order No. 11574, Administration of Refuse Act Program, December 25, 1970, 35 F.R. 19627.

Control Act to prevent pollution and degradation of water quality.²³⁶ A second reason that the Refuse Act has not been utilized to the limit of its effectiveness in this area results from the enforcement policy of the Department of Justice which also relies on water quality standards rather than the Refuse Act to prevent and abate pollution. The Department's Guidelines for Litigation Under the Refuse Act provide that:

1. The policy of the Department of Justice with respect to the enforcement of the Refuse Act for purposes other than the protection of the navigable capacity of our national waters, is not to attempt to use it as a pollution abatement statute in competition with the Federal Water Pollution Control Act or with State pollution abatement procedures, but rather to use it to supplement that Act by bringing appropriate actions either to punish the occasional or recalcitrant pollutor, or to abate continuing sources of pollution which for some reason or other have not been subjected to a proceeding conducted by the Federal Water Quality Administration or by a State, or where in the opinion of the Federal

²³⁶The Secretary of the Army is directed under Section 2(A) to accept the findings of the Administrator of the Environmental Protection Agency and to deny a permit application where certification by the state agency is denied under section 21 (b) of the Federal Water Pollution Control Act. The order is poorly organized and phrased but it appears that the Secretary could deny a permit application under section 2(a) (3) requiring him to consult with the Secretary of Interior regarding effects on fish and wildlife which are not reflected in water quality considerations, "where the discharge for which a permit is sought impounds, diverts, deepens the channel or otherwise controls or similarly modifies the stream or body of water into which the discharge is made" and under section 2(a) (4) which directs the Secretary to comply with the procedural requirements of consultation of the National Environmental Policy Act.

Water Quality Administration the pollutor has failed to comply with obligations under such a procedure. To this end, the instructions in Section III below encourage United States Attorneys to use the Refuse Act to punish or prevent significant discharges, which are either accidental or infrequent, but which are not of a continuing nature resulting from the ordinary operations of a manufacturing plant. Discharges of this last type, of course, pose the greatest threat to the environment--but it is precisely this type of discharge that the Congress created the Federal Water Quality Administration to decrease or eliminate. . . . Therefore . . . civil and criminal actions against manufacturing plants which continuously discharge refuse into the navigable waters of the United States are not among the types of actions which the United States Attorneys may initiate on their own authority.

. . . .
 B.3. United States Attorneys shall in no case, without prior authorization from the Appropriate Assistant Attorney General, initiate either a criminal or civil action under the Refuse Act against a State, County, or municipality, or any other political subdivision of a State, or any person acting pursuant to a license from such State, County, municipality or other political subdivision.²³⁷

These policies might be persuasive were there not already developed a rather definitive and detailed interpretation of the power and scope of the Refuse Act. As the discussion above noted, the Supreme Court has ruled that the protection of the navigable capacity of our national waters requires prevention of industrial and other pollutants which change the condition of the waterway and

²³⁷Department of Justice Guidelines for Litigation Under the Refuse Act, quoted in Gray, Cases and Materials on Environmental Law, Supp. 1970, S-83-84.

that such pollution constitutes a violation of both § 10 and § 13 of the Rivers and Harbors Act.²³⁸ It has also ruled that the Refuse Act is not in conflict with the Federal Water Pollution Control Act and that the duty of the U.S. Attorney to prosecute offenders under the Refuse Act does not depend upon compliance with state or other permits.²³⁹

Whatever the validity of these policy guidelines in law, these and other factors will result in a failure of the federal government to adequately prosecute under the Refuse Act. This default by the federal government has served to focus increased attention on a provision of the penalty section of the Refuse Act²⁴⁰ which provides that: "one half of said fine to be paid to the person or persons giving information which shall lead to conviction." Environmentalists look to this section for authority to institute qui tam actions in an attempt to compensate for the failure of government to implement or enforce the Act. The Committee on Government Operations comments that this provision buttresses the efficacy of Refuse Act enforcement in two ways:

²³⁸United States v. Republic Steel Corp., 362 U.S. 482, 80 S. Ct. 884, 4 L. Ed. 2d 903 (1960).

²³⁹United States v. Interlake Steel Corp., 297 F. Supp. 912 (1969).

²⁴⁰33 U.S.C. § 411 (1964).

(a) The informer payment provides a monetary incentive to citizens to furnish information to the Corps concerning violations of the Refuse Act.

(b) The Supreme Court has ruled that where a statute provides for a reward to the informer, the statute authorizes him, if the government has not previously instituted a prosecution against the violator, to institute his own suit in the name of the United States (a qui tam action) to collect his moiety of the penalty. Such qui tam statutes, vesting in an informer the right to recover a moiety of a penalty for a violation in which he otherwise would have no financial interest, "have been in existence for hundreds of years in England, and in this country ever since the foundation of our Government." By making the violator subject to action by private persons stimulated by the hope of a reward, such provisions help to insure against [laxity by public officials in enforcing statutes] effectuating important public policies.²⁴¹

Qui tam actions would also serve to gain a judicial determination of the validity of the guidelines adopted by the Department of Justice. The effect of the guidelines may well prove an embarrassment to the Justice Department and the administration as a whole. If the guidelines are maintained in force, then the citizen will, in most cases, involving continuing discharges, have no recourse but to institute qui tam litigation upon the basis of facts presented to the United States Attorney. If the courts continue to find that there is no conflict between the Refuse Act and subsequent legislation, then there may well be more litigation by enthusiastic environmentalists

²⁴¹H. R. Rep. No. 91-917 [supra n. 216], at 17-18; See Report of the Comm. for Government Operations [supra n. 216] for detailed discussion of qui tam actions.

than there would be if the Justice Department were to vigorously prosecute under the Refuse Act. The guidelines barring most government prosecutions would thus serve as an admission ticket into court for the litigation-minded environmentalist.

Yet the enthusiasm generated by the prospect of qui tam actions under the Refuse Act has been dampened at least temporarily by the recent decisions of several federal district courts that the Refuse Act will not support a qui tam action.²⁴² Any further attempts to bring a qui tam action under the Refuse Act would be best held in abeyance in the hope that the issue concerning the availability "of this remedy" will be clarified by the Supreme Court.

²⁴²Durning v. ITT Rayonier, _____ F. Supp. _____ (2 E.R.C. 1170) (W. D. Wash, N. Div. No. Civ. 9070, decided October 5, 1970); Bass Angler Sportsman Society v. United States Steel Corp., 324 F. Supp. 412 (2 E.R.C. 1204) (N.D. Ala. 1971); Bass Anglers v. U.S. Plywood, 324 F. Supp. 302 (2 E.R.C. 1298) (S.D. Texas 1971); Reuss v. Moss-American, 323 F. Supp. 848 (2 E.R.C. 1258) (E.D. Wisc. 1971).

CHAPTER V

OTHER LEGAL DOCTRINES WHICH MAY SERVE TO PROTECT WATER RIGHTS OF THE EVERGLADES NATIONAL PARK

A. Changing National Policies and Goals Reflected in the Law

1. The Expanding Doctrine of Standing to Sue and Damages in Federal Courts

The requirement of standing to sue results from the Constitutional provision that judicial power extends only to a "case or controversy."¹ In Flast v. Cohen² the United States Supreme Court noted that a plaintiff must demonstrate "such a personal stake in the outcome of the controversy as to assure that concrete adverseness which sharpens the presentation of issues upon which the court so largely depends. . . ."³ Such adversity is required so as to assure that:

. . . the question will be framed with the
necessary specificity, that the issues will be

¹U.S. Const., Art. III, § 2, ch. 1: The judicial power shall extend to all cases, in Law and Equity, arising under this Constitution, the Laws of the United States . . . (and) to controversies to which the United States shall be a party. . . .

²392 U.S. 83 (1968).

³Id. at 99.

contested with the necessary adverseness and that the litigation will be pursued with the necessary vigor to assure that the constitutional challenge will be made in a form traditionally thought to be capable of judicial resolution.⁴

Federal statutes provide for judicial review of administrative and official action by "adversely affected" or "aggrieved" persons. Section 10 of the Administrative Procedure Act⁵ states:

A person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof.

The definition by the courts of such aggrieved parties under relevant federal statutes has evolved from one that limited standing to persons who could prove damage to a legally protected right or property interest based upon traditional private property and economic principles to one which permits individuals to sue in behalf of the public interest in environmental values. The enactment

⁴Id. at 106. On the subject of standing see: Jaffe, *The Citizen as Litigant in Public Actions: The Non Hohfeldian or Ideological Plaintiff*, 116 U. Pa. L. Rev. 1033 (1968); Jaffe, *Standing to Secure Judicial Review: Private Actions*, 75 Harv. L. Rev. 255 (1961); Davis, *Standing to Challenge Governmental Action*, 39 Minn. L. Rev. 353 (1955); Jaffe, *Standing to Secure Judicial Review: Public Actions*, 74 Harv. L. Rev. 1265 (1961); Jaffe, *Standing to Sue in Conservation Suits, Law and the Environment* (M. Baldwin, ed. (1969)); Note, *Toward a Constitutionally Protected Environment*, 56 Va. L. Rev. 458, 467-73 (1970); Davis, *The Liberalized Law of Standing*; Richards, *Walton v. St. Clair: The Standing Question*, 4 Nat. Res. Lawyer 47 (1971).

⁵5 U.S.C. § 702 (1964).

of environmental statutes has facilitated the development of this expanded doctrine of standing.

In Tennessee Electric Power Co. v. TVA⁶ the United States Supreme Court ruled that private corporations lacked standing to challenge actions of the Tennessee Valley Authority since they failed to demonstrate that such actions would result in the invasion of a legally protected right or privilege of property, contract or statute. In Perkins v. Lukens Steel Co.,⁷ the Court held that private corporations lacked standing to challenge determinations of the Secretary of Labor regarding their obligation to pay minimum wages and ruled that such parties "must show an injury or right to a particular right of their own. . . ." ⁸ This requirement of injury to a personal right was first set forth in the well-known decision in Frothingham v. Mellon⁹ in which the Court ruled that an individual taxpayer lacked standing to challenge governmental expenditure of funds because her interest in such funds was "shared with millions of others and . . . comparatively minute and indeterminable. . . ." ¹⁰ Therefore,

⁶306 U.S. 118 (1937).

⁷310 U.S. 113 (1940).

⁸Id. at 125.

⁹262 U.S. 447 (1923).

¹⁰Id. at 487.

these cases established as guidelines for the determination of standing that a plaintiff must show the actual or threatened invasion of a legally protected right or interest which is both personal to him and of an economic nature.

The Supreme Court departed from these criteria in F.C.C. v. Sanders Brothers¹¹ to permit a competing broadcasting station to challenge the Federal Communication Commission's authorization of a new station. In this case and in Scripps-Howard Radio v. F.C.C.¹² plaintiffs were threatened with economic injury as potential or actual competitors yet the Court seems to have relaxed the requirement that such parties demonstrate damage to a personal economic interest noting that: ". . . these private litigants have standing only as representatives of the public interest."¹³ In Associated Industries v. Ickes¹⁴ the Second Circuit Court of Appeals extended this doctrine to grant standing to an individual as a "private attorney general,"

. . . to prevent alleged unlawful official action in order to vindicate the public interest, although no personal substantive interest of such persons had been or would be invaded.¹⁵

¹¹309 U.S. 470 (1940).

¹²316 U.S. 4 (1942).

¹³Id. at 14.

¹⁴134 F.2d 694 (2nd Cir. 1943) (vacated as moot 320 U.S. 707, 64 S. Ct. 74, 88 L. Ed. 414 (1943)).

¹⁵Id. at 705.

The Court stated that the right of standing exists "even if the sole purpose is to vindicate the public interest."¹⁶

It was from this perspective that the Second Circuit Court of Appeals in the landmark case of Scenic Hudson Preservation Conference v. FPC¹⁷ construed section 10(a) of the Federal Power Act¹⁸ which requires that the Federal Power Commission determine that the project to be licensed is the one which is best adapted for "beneficial public uses, including recreational purposes." The court ruled that petitioners, including an unincorporated association of interested individuals and two conservation groups, had the requisite standing to challenge the order of the FPC licensing Consolidated Edison's proposed hydroelectric power project at Storm King Mountain on the Hudson River. Petitioners challenged the action of the FPC on the grounds that the Commission had not adequately considered scenic, recreational and wildlife values in its decision to license the project. The court ruled that the petitioners were aggrieved parties under the Federal Power Act and had standing to challenge action which threatened conservation and scenic values which were included in the recreational purposes to

¹⁶Id.

¹⁷354 F.2d 608 (2d Cir. 1965), (cert. denied, 384 U.S. 941 (1966)).

¹⁸16 U.S.C. 803(a) (1964).

be considered under the statute.¹⁹ The court stated that a person may act as a private attorney general²⁰ and that:

The "case" or "controversy" requirement of Article III, § 2 of the Constitution does not require that an aggrieved" or "adversely affected" party have a personal economic interest. . . . the Supreme Court has not made economic injury a prerequisite where the plaintiffs have shown a direct personal interest.²¹

A sufficient personal interest is apparently demonstrated by active participation and interest in the preservation of values protected by the relevant statute.²² The court ruled that:

In order to insure that the Federal Power Commission will adequately protect the public interest in the aesthetic, conservational, and recreational aspects of power development, those who by their activities and conduct have exhibited a special interest in such areas, must be held to be included in the class of "aggrieved" parties. . . .²³

The Supreme Court endorsed the test established in Scenic Hudson in Udall v. FPC,²⁴ involving the licensing by the FPC of a hydroelectric plant which plaintiffs argued would damage wildlife and spawning areas of salmon. The Court ruled that the Commission had not adequately

¹⁹Id. at 614.

²⁰Id. at 619.

²¹Id. at 615.

²²Id. at 616.

²³Id. at 616. Yet the Court also found that petitioners had sufficient economic interest in the threatened damage to trails owned by some association members to establish their standing. Id. at 617.

²⁴387 U.S. 428 (1967).

considered conservation values and remanded the case for further consideration and stated that:

The test is whether the project will be in the public interest. And that determination can be made only after an exploration of all issues relevant to the "public interest," including . . . the public interest in preserving reaches of wild rivers and wilderness areas, the preservation of anadromous fish for commercial and recreational purposes, and the protection of wildlife.²⁵

In Data Processing Service v. Camp²⁶ the Supreme Court articulated the doctrine that standing is not a function of damage to economic values alone, and that an aggrieved party under the Administrative Procedure Act and other statutes is one whose statutorily protected interests have been adversely affected by governmental action. Such legal interests

. . . may reflect aesthetic, conservational, and recreational as well as economic values. . . . We mention these non-economic values to emphasize that standing may stem from them as well as from the economic injury. . . .²⁷

Numerous lower federal courts have adopted and applied the test for standing developed in Scenic Hudson²⁸

²⁵Id. at 450

²⁶397 U.S. 150, 25 L. Ed. 2d 184 (1970).

²⁷25 L. Ed. 2d at 188. Yet this was a competitor's suit and this language is, for that reason, only dictum since a competitor's suit involved the economic injury required under the traditional test for standing.

²⁸E.g., Church of Christ v. FCC, 359 F.2d 994 (D.C. Cir. 1966) in which representatives of the "listener interest" were allowed to intervene in FCC proceedings concerning the licensing of a new radio station. The court noted, at 1005 that: "The responsible and representative groups eligible to intervene cannot here be enumerated or

It would appear that actual or threatened damage to non-economic interests affords a basis for standing to obtain judicial review of administrative action affecting such non-economic subjects of the public interest when the statutory standard for the challenged action requires consideration of the public interest and plaintiffs have demonstrated interest in the subject matter of the action.

2. Selected Federal Environmental Statutes

The significant damage and continuing threats to the ecological integrity of the Park resulting from flood control and water "management" structures constructed by the U.S. Army Corps of Engineers and operated by the Central and Southern Florida Flood Control District manifest

categorized specifically. . . . These groups are found in every community; they usually concern themselves with a wide range of community problems and tend to be representatives of broad as distinguished from narrow interests, public as distinguished from private or commercial interests"; *Road Review League v. Boyd*, 270 F. Supp. 650 (S.D. N.Y. 1967) in which the court granted standing to persons who had not been parties to the original administrative proceeding to challenge the action on the basis that plaintiffs had "participated actively in attempting to secure an administrative determination favorable to their interest" at 661; *Citizens Comm. for the Hudson Valley v. Volpe*, 302 F. Supp. 1083 (S.D. N.Y. 1969) (aff'd., 425 F.2d 97 (2 Cir. 1970) in which the court noted, at 1092, that: ". . . the rule . . . is that if the statutes involved in the controversy are concerned with the protection of natural . . . and scenic resources, then a congressional intent exists to give standing to groups interested in these factors and who allege that these factors are not being properly considered by the agency." But see *Sierra Club v. Hickel*, ___ F.2d ___, 1 ELR 20015 (9th Cir. 1970) holding that plaintiffs lacked standing and suggesting that a national conservation group does not have a sufficiently direct interest to be "injured" by environmental damage.

the influence of the "engineering mentality" and policies which discounted the importance of environmental values.²⁹ Recent federal legislation³⁰ and judicial decisions indicate that the national policy toward environmental values has changed and that the influence of the "engineering mentality" has been substantially diminished.

²⁹Discussed in Chapter II, supra.

³⁰Numerous federal statutes and executive orders afford protection to environmental values. Among the more significant of such statutes and executive orders are: National Environmental Policy Act of 1969, Pub. L. 91-190, 42 U.S.C.A. 4331-47; Environmental Quality Improvement Act of 1970, Pub. L. 91-224; Fish and Wildlife Coordination Act, as amended, 16 U.S.C. §§ 661-666 c (1964); Federal Water Pollution Control Act, 33 U.S.C. § 466, et. seq., as amended by Water Quality Act of 1965, Pub. L. 89-234, 79 Stat. § 903, by Clean Water Restoration Act of 1966, Pub. L. 89-753; 80 Stat. 1246, and by Water Quality Improvement Act of 1970, Pub. L. 91-224, title 1, 84 Stat. 91; Eagle Protection Act, 16 U.S.C. § 668 (1964); the Endangered Species Act, 16 U.S.C. 669a-j (1964); Act to Preserve Game Birds and Other Wild Birds, 16 U.S.C. 701-02 (1964); Migratory Bird Conservation Act, 16 U.S.C. 715-715r (1964) as amended (Supp. IV, 1969); Anadromous Fish Act, 16 U.S.C. 757a-f (Supp. IV, 1969); 23 U.S.C. 38 and sec. 4(f) of the Dept. of Transportation Act, 49 U.S.C. 1653, as amended by sec. 18 of the Federal Aid Highway Act of 1963, 82 Stat. 815, 823-24; Bureau of Outdoor Recreation Act of 1963, Pub. L. 88-29, 77 Stat. 49; 16 U.S.C. 460-1; Water Resources Planning Act of 1965 (Pub. L. 89-80; 79 Stat. 451, 490, 42 U.S.C. 3102; Estuary Protection Act of 1968, Pub. L. 90-454; 82 Stat. 625; 16 U.S.C. 1221; Land and Water Conservation Fund Act, as amended, 16 U.S.C. §§ 460 1-4 to 460 1-11; Fish and Wildlife Act of 1956, as amended, 16 U.S.C. 742a-j; Executive Order 11472 of May 29, 1969 (34 F.R. 8693), as amended by Executive Order 11514 of March 5, 1970 (35 F.R. 4247); Executive Order 11507 of February 4, 1970 (35 F.R. 2573); Federal Aid in Wildlife Restoration Act, 50 Stat. 917, as amended 16 U.S.C. 669; Federal Aid in Fish Restoration Act, 64 Stat. 430, as amended 16 U.S.C. § 777.

In Zabel v. Tabb³¹ the Fifth Circuit Court of Appeals upheld the denial of a permit to dredge and fill by the U.S. Army Corps of Engineers because of its threatened impact upon the ecology of the area. The application for the permit was opposed by the Florida Board of Conservation and the Department of the Interior and was denied by the Secretary of the Army as contrary to the public interest because of the damage to fish and wildlife resources which would result from the dredge and fill activities for which a permit was sought. Plaintiffs challenged the denial of the permit on the grounds that the Secretary of the Army does not have the power to deny such permits for ecological reasons when the proposed activity does not threaten interference with navigation, flood control or the production of power.

The Court noted that the applicable provision of the Rivers and Harbors Act of 1899³² proscribing the building of structures and the excavation and filling in of navigable waters unless approved by the Secretary of the Army,

. . . does not prescribe either generally or specifically what these conditions (for granting the permit) may be. The question for us to decide is whether under the Act the Secretary may include conservation considerations as conditions to be met to make the proposed project acceptable.³³

³¹430 F.2d 199 (1970) (cert. denied 91 S. Ct. 873 (1971)).

³²33 U.S.C. 403 (1964) discussed, Chapter IV, text at notes 202-13, supra.

³³430 F.2d 199, 207 (1970).

The Court noted that the cases under this provision had involved disputes which were cast in terms of a threatened impact upon navigation, with only a few exceptions,³⁴ but found that resort to these cases was not necessary. The court ruled that the granting of permits and other statutory responsibilities of governmental agencies are subject to other valid governmental policies and found that "the government-wide policy of environmental conservation is spectacularly revealed in at least two statutes,"³⁵ the Fish and Wildlife Coordination Act³⁶ and the National Environmental Policy Act of 1969.³⁷

The Fish and Wildlife Coordination Act³⁸ requires

³⁴United States ex rel. Greathouse v. Dern, 289 U.S. 352, 53 S. Ct. 614, 77 L. Ed. 1250 (1933) discussed, Chapter IV, text at notes 231-32, *supra*; Citizens Comm. for Hudson Valley v. Volpe, 302 F. Supp. 1083 (S.D. N.Y. 1969) (aff'd., 425 F.2d 97 (2 Cir. 1970)).

³⁵430 F.2d 199, 209 (1970).

³⁶16 U.S.C. §§ 661-66 (1964).

³⁷Pub. L. 91-190, 42 U.S.C.A. §§ 4331-47.

³⁸Section 662(a), the portion here relevant, states: "Except as hereafter stated in subsection (h) of the section [not applicable], whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, or by any public or private agency under Federal permit or license, such department or agency first shall consult with the United States Fish and Wildlife Service, Department of the Interior, and with the head of the agency exercising administration over the wildlife resources of the particular State wherein the impoundment, diversion, or other control facility is to be constructed, with a view to the conservation of wildlife resources by preventing loss of and damage to such resources as well as providing for the development and improvement thereof in connection with such water-resource development."

the Corps of Engineers, as an agency of the United States, to consult with the Fish and Wildlife Service of the Department of the Interior with a view to conservation of wildlife resources, in determining whether to grant a permit for dredge and fill or other modification of a water body.³⁹ The procedure for such consultation is set forth in a Memorandum of Understanding between the Secretary of the Army and the Secretary of the Interior.⁴⁰ The court concluded that the cases noted above, the Fish and Wildlife Coordination Act, and the executive action contained in the Memorandum of Understanding constituted an unequivocal expression of government intent that the Secretary weigh the effect of a proposed dredge and fill project upon conservation values before he issues a permit lifting the Congressional ban on such activities.⁴¹

Section 101(a) of the National Environmental Policy Act⁴² recognizes the "critical importance of restoring and

³⁹Udall v. FPC, 387 U.S. 428, 443-44 (1967).

⁴⁰For a criticism of the performance of both agencies under this Memorandum of Understanding and a discussion of the requirements of the Fish and Wildlife Coordination Act, see Comm. on Government Operations, The Permit for Landfill in Hunting Creek: A Debacle in Conservation, H. R. Rep. No. 91-113, 91st Cong., 1st Sess. (1969).

⁴¹430 F.2d 199, 211 (1970).

⁴²42 U.S.C.A. §§ 4331-47.

maintaining environmental quality to the overall welfare and development of man. . . ." and declares a national policy which will encourage productive harmony between man and his environment. Section 102 directs every federal agency to interpret the statutes controlling its activities to achieve these goals and to consider ecological factors when dealing with activities which may have an effect upon man's environment. The court ruled that the effect of the National Environmental Policy Act was to give added impetus and weight to the national policy in this regard and concluded that:

. . . there is no doubt that the Secretary can refuse on conservation grounds to grant a permit under the Rivers and Harbors Act.⁴³

In reversing the decision of the District Court which had directed the Secretary to issue a permit to plaintiffs⁴⁴ the court in Zabel v. Tabb stated:

The establishment was entitled, if not required, to consider ecological factors and, being persuaded by them to deny that which might have been granted routinely five, ten, or fifteen years ago before man's explosive increase made all, including Congress, aware of civilization's potential destruction from breathing its own polluted air and drinking its own infected water and the immeasurable loss from a silent-spring-like disturbance of nature's economy. We reverse.⁴⁵

Damage to the environment is clearly a subject of national concern and such damage is cognizable as injury within the

⁴³430 F.2d 199, 214 (1970).

⁴⁴296 F. Supp. 764 (1969).

⁴⁵430 F.2d 199, 201 (1970); see also U.S. v. Ray, 423 F.2d 16 (5th Circ. 1970).

institutional framework of law.⁴⁶

B. Powers and Rights Derived from the U.S. Constitution

1. The Commerce Clause

The discussion in section B of Chapter IV considered the powers derived from the commerce clause of the U.S. Constitution to regulate and otherwise exercise authority with regard to navigable waters. Yet the federal government's power to regulate and facilitate commerce justifies the exercise of water regulatory authority beyond the scope of the already broad navigation powers. The Supreme Court suggested the broad scope of the commerce power over water resources in United States v. Appalachian Electric Power Co. ⁴⁷

In our view, it cannot properly be said that the constitutional power of the United States over its waters is limited to control for navigation. By navigation respondent means no more than operation of boats and improvement of the waterway itself. In truth the authority of the United States is the regulation of commerce on its waters. Navigability, in the sense just stated, is but a part of this whole. Flood protection, watershed development, recovery of the cost of improvements through utilization of power are likewise parts of commerce control. . . . That authority is as broad as the needs of commerce. . . .

⁴⁶In Hanks and Hanks, "An Environmental Bill of Rights: The Citizen Suit and the National Environmental Policy Act of 1969," 24 Rutgers L. Rev. 230 (1970), the authors suggest that the Act recognizes or creates a judicially protectable environmental interest which is capable of being asserted and protected by citizen groups as well as affecting the jurisdiction of federal agencies and departments and putting the burden of compiling the environmental record on the governmental agencies so as to establish principles of decision-making which favor the ecological status quo. See also, Calvert Cliffs Coordinating Comm. v. AEC, ___ F.2d ___, 2 ERC 1779 (D.C. Cir. 1971); The Comm. for Nuclear Responsibility, Inc. v. Seaborg, ___ F.2d ___, No. 71-1732 (D.C. Cir. Oct. 5, 1971).

The point is that navigable waters are subject to national planning and control in the broad regulation of commerce granted the Federal Government.⁴⁸

The Everglades National Park contains within its boundaries navigable waters and nonnavigable tributaries. The Park sustains tourism which is worth at least \$11 million a year to southern Florida, a considerable commercial and sport fishing industry and a \$16 million shrimp industry.⁴⁹ These activities are subjects of legitimate federal interest and regulation under the commerce clause.⁵⁰ These values are threatened and "affected" by activities in the Kissimmee-Okeechobee-Everglades drainage basin which affect the quantity and quality of water reaching the Park. The effects of such activities have been described in Chapter I and should serve as a justification for the valid exercise of the commerce

⁴⁸Id. at 423-27, 85 L. Ed. 243, 261-63.

⁴⁹Discussed in Chapter II, text at notes 19-22 supra.

⁵⁰Chief Justice Marshall declared in *Gibbons v. Ogden* (22 U.S. (9 Wheat.) 1 (1824)) that the term "commerce" encompasses more than "traffic" but includes "intercourse" and that: "Powerful and ingenious minds, taking as postulates, that the powers expressly granted to the government of the Union are to be contracted by construction into the narrowest possible compass, and that the original powers of the States are retained, if any possible construction will retain them, may, by a course of well digested, but refined and metaphysical reasoning, founded on these premises, explain away the Constitution of our country, and leave it, a magnificent structure, indeed, to look at, but totally unfit for use. . . . In such a case, it is peculiarly necessary to recur to safe and fundamental principles. . . ." Id. at 97.

power.⁵¹

Such an exercise of the federal power to regulate commerce might be based upon the contention that the Everglades National Park is a legitimate federal activity which constitutes commerce and cannot be frustrated by indirection through drainage, pollution and other activities and that the federal government has authority to enjoin such activities without resort to specific legislation. This argument is supported by the language of the Supreme Court in Sanitary District of Chicago v. United States⁵² concerning the authority of the Attorney General to seek an injunction under the 1899 Refuse Act against activities which lowered the level of navigable waters. The Court stated: "The Attorney General by virtue of his office, may bring this proceeding and no statute is necessary to authorize the suit."⁵³ Should such an attempt to regulate the use of private property to secure the federal interest in the preservation of the Park without a specific authorizing statute fail, there is clearly a valid basis for enactment of a statute to serve this purpose.⁵⁴

⁵¹The Fifth Circuit Court of Appeals in Zabel v. Tabb (430 F.2d 199 (1970) (cert. denied 91. S. Ct. 873 (1971))) noted that: In this time of awakening to the reality that we cannot continue to despoil our environment and yet exist, the nation knows, if courts do not, that the destruction of fish and wildlife in our estuarine waters does have a substantial, and in some areas a devastating, effect on interstate commerce. Id. at 203.

⁵²266 U.S. 405, 45 S. Ct. 176, 69 L. Ed. 352 (1925).

⁵³Id. at 426.

⁵⁴Wickard v. Filburn, 317 U.S. 111, 125, 63 S. Ct. 82,

2. The Treaty Power of the Federal Government

The exercise of the treaty power of the federal government⁵⁵ has significant impact upon federal-state relations and serves as a potent source of federal power to regulate state and individual action in order to fulfill international obligations and to protect the subject matter of treaties. Wildlife protected under treaties with Great Britain and Mexico for the protection of migratory birds and mammals and with Cuba for the protection of pink shrimp are found within the Everglades National Park during part or all of their life cycle. The scope of the obligation assumed by the federal government under these treaties may serve to justify regulation of water use and other activities which threaten the protected wildlife and may thereby indirectly protect the water supply of the Park.

a. Migratory Birds and Game Mammals

By treaties with Great Britain⁵⁶ and Mexico⁵⁷

89, 87 L. Ed. 122, 135 (1942).

⁵⁵U.S. Const., art. 2, §2, cl. 2: The President "shall have power, by and with the advice and consent of the Senate, to make treaties . . ."; art. 6, cl. 2, ii. "This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding."

⁵⁶Migratory Bird Conv. with Great Britain, Aug. 16, 1916, 39 Stat. 1705.

⁵⁷Conv. for the Protection of Migratory Birds and Game Mammals with Mexico, Feb. 7, 1936, 50 Stat. 1311; T.S. 912; IV Trenwith 4498.

the United States assumed an international obligation to protect certain species of migratory wildlife from extermination. Domestic legislation was enacted to implement the treaties.⁵⁸

The leading case of Missouri v. Holland⁵⁹ considered the constitutionality of the Migratory Bird Treaty Act⁶⁰ providing for enforcement of the treaty with Great Britain. The State of Missouri sought to restrain a game warden of the United States from enforcing the provisions of the Act and the regulations made by the Secretary of the Interior pursuant to it, alleging that the Act was an unconstitutional interference with the rights reserved to the states by the Tenth Amendment of the U.S. Constitution. In upholding the constitutionality of the Act and the treaty, Justice Holmes stated:

Here a national interest of very nearly the first magnitude is involved. It can be protected only by national action in concert with that of another power. The subject matter is only transitorily within the State and has no permanent habitat therein. But for the treaty and the statute there soon might be no

⁵⁸ Migratory Bird Treaty Act of July 3, 1918, 40 Stat. 755; as amended 16 U.S.C. §§ 703-711 (1964); Protection of Eagles of June 8, 1940 as amended, and Endangered Species Act, 16 U.S.C. § 668 (1964).

⁵⁹ Missouri v. Holland, 252 U.S. 416 (1920).

⁶⁰ 16 U.S.C. §§ 703-11 (1964).

birds for any powers to deal with. We see nothing in the Constitution that compels the Government to sit by while a food supply is cut off and the protectors of our forests and our crops are destroyed. It is not sufficient to rely upon the States. The reliance is vain. . . .⁶¹

Byrd notes that the holding of the Court in Missouri v. Holland followed the traditional and uniform practice of upholding treaties dealing with subjects which would be reserved to the states absent a treaty.⁶²

Some 260 species of birds which are the subject of these treaties and enabling legislation are found within the Everglades National Park, 52 of which nest in the Park.⁶³ The treaties and enabling legislation

⁶¹252 U.S. 416, 435 (1920).

⁶²Byrd, *Treaties and Executive Agreements in the United States*, 109 (1960).

⁶³Count by this writer based upon *Birds Protected by Federal Law*, U.S. Dept. Interior, Fish and Wildlife Service, Bureau of Sport Fisheries and Wildlife, W.L. 486, May 1969; Ogden, *Checklist of Birds, Everglades National Park*, 1969. The following birds found in the Park (*indicates species nests in Park) are protected by treaty and federal law: Common Loon; Red-throated Loon; Red-necked Grebe; Horned Grebe; *Pied-billed Grebe; Sooty Shearwater; Brown Booby; Gannet; *Great White Heron; *Great Blue Heron; *Green Heron; *Little Blue Heron; *Cattle Egret; *Reddish Egret; *Common Egret; *Snowy Egret; *Louisiana Heron; *Black-crowned Night Heron; *Yellow-crowned Night Heron; *Least Bittern; American Bittern; Canada Goose; Brant; Snow Goose; Blue Goose; Fulvous Tree Duck; Mallard; Black Duck; *Mottled Duck; Gadwall; Pintail; Bahama Duck; Green-winged Teal; Blue-winged Teal; Cinamon Teal; American Widgeon; Shoveler; Wood Duck; Redhead; Ring-necked Duck; Canvasback; Greater Scaup; Lesser Scaup; Bufflehead; Oldsquaw; Surf Scoter; Ruddy Duck; Hooded Merganser; *Bald Eagle; *Sandhill Crane; *King Rail; *Clapper Rail; Virginia Rail; Black Rail; *Purple Gallinule; *Common Gallinule; American Coot; American Oystercatcher; Semipalmated Plover; Piping Plover; Snowy Plover; *Wilson's Plover; Killdeer; American Golden Plover; Black-bellied Plover; Ruddy Turnstone; Common Snipe; Long-billed Curlew; Whimbrel; Upland Plover; Spotted Sandpiper; Solitary Sandpiper; Willet; Greater Yellowlegs;

Lesser Yellowlegs; Knot; Sharp-tailed Sandpiper; Pectoral Sandpiper; White-rumped Sandpiper; Baird's Sandpiper; Least Sandpiper; Dunlin; Short-billed Dowitcher; Long-billed Dowitcher; Stilt Sandpiper; Semipalmated Sandpiper; Western Sandpiper; Buff-breasted Sandpiper; Marbled Godwit; Hudsonian Godwit; Ruff; Sanderling; American Avocet; *Black-necked Stilt; Wilson's Phalarope; Northern Phalarope; Parasitic Jaeger; Herring Gull; Ring-billed Gull; Laughing Gull; Franklin's Gull; Bonaparte's Gull; Gull-billed Tern; Forster's Tern; Common Tern; Roseate Tern; Sooty Tern; Bridled Tern; *Least Tern; Royal Tern; Sandwich Tern; Caspian Tern; Black Tern; White-crowned Pigeon; Zenaida Dove; White-winged Dove; *Mourning Dove; *Ground Dove; *Mangrove Cuckoo; *Yellow-billed Cuckoo; Smooth-billed Ani; Goove-billed Ani; *Chuck-will's-widow; *Common Nighthawk; Chimney Swift; Ruby-throated Hummingbird; *Yellow-shafted Flicker; *Pileated Woodpecker; *Red-bellied Woodpecker; Red-headed Woodpecker; Yellow-bellied Sapsucker; *Hairy Woodpecker; *Downy Woodpecker; *Eastern Kingbird; *Gray Kingbird; Western Kingbird; Scissor-tailed Flycatcher; *Great Crested Flycatcher; Wied's Crested Flycatcher; Eastern Phoebe; Acadian Flycatcher; Traill's Flycatcher; Least Flycatcher; Eastern Wood Pewee; Vermillion Flycatcher; Tree Swallow; Bank Swallow; Rough-winged Swallow; Barn Swallow; Cliff Swallow; Purple Martin; Tufted Titmouse; House Wren; *Carolina Wren; Long-billed Marsh Wren; *Mockingbird; Catbird; Brown Thrasher; Robin; Wood Thrush; Hermit Thrush; Swainson's Thrush; Gray-checked Thrush; Veery; Eastern Bluebird; Blue-gray Gnatcatcher; Ruby-crowned Kinglet; Water Pipit; Cedar Waxwing; *Loggerhead Shrike; *White-eyed Vireo; Bell's Vireo; Yellow-throated Vireo; Solitary Vireo; *Black-whiskered Vireo; Red-eyed Vireo; Philadelphia Vireo; Black-and-white Warbler; Prothonotary Warbler; Swainson's Warbler; Worm-eating Warbler; Golden-winged Warbler; Blue-winged Warbler; Tennessee Warbler; Orange-crowned Warbler; Nashville Warbler; Parula Warbler; *Yellow Warbler; Magnolia Warbler; Cape May Warbler; Black-throated Blue Warbler; Myrtle Warbler; Black-throated Gray Warbler; Black-throated Green Warbler; Cerulean Warbler; Blackburnian Warbler; Yellow-throated Warbler; Chestnut-sided Warbler, Bay-breasted Warbler; Blackpoll Warbler; *Pine Warbler; *Prairie Warbler; Palm Warbler; Ovenbird; Northern Waterthrush; Louisiana Waterthrush; Kentucky Warbler; Connecticut Warbler; Mourning Warbler; *Yellowthroat; Yellow-breasted Chat; Hooded Warbler; Wilson's Warbler; American Redstart; Bobolink; *Eastern Meadowlark; Yellow-headed Blackbird; *Red-winged Blackbird; Orchard Oriole; Spotted-breasted Oriole; Baltimore Oriole; Bullock's Oriole; Rusty Blackbird; Brewer's Blackbird; *Boat-tailed Grackle; *Common Grackle; Brown-headed Cowbird; Western Tanager; Scarlet Tanager; Summer Tanager; *Cardinal; Rose-breasted Grosbeak; Blue Grosbeak; Indigo Bunting; Painted Bunting; Black-headed Grassquit; Dickcissel; Pine Siskin; American Goldfinch;

proscribe the hunting, taking, killing, capturing, shipment, sale, and purchase of these species but they do not address themselves to protection of the species from threats of extermination by indirection resulting from the destruction or alteration of their habitat by pollution or modification of water flows and levels.

b. Tortugas Shrimp Fishery

The Convention with Cuba for the Conservation of Shrimp⁶⁴ established a commission to promote and coordinate research and to promulgate fishery regulations so as to develop and maintain the maximum sustainable productivity of the pink shrimp fishery concentrated in the Dry Tortugas area in the waters of the Gulf of Mexico off the coasts of Cuba and Florida.

The United States Senate advised and consented to ratification of the Convention on the part of the United States⁶⁵ and ratifications of the two governments were exchanged on September 4, 1959, bringing the Convention into effect. Although domestic enabling legislation has

Rufous-sided Towhee; Lark Bunting; Savannah Sparrow; Grasshopper Sparrow; Sharp-tailed Sparrow; Common Seaside Sparrow; *Cape Sable Sparrow; Vesper Sparrow; Lark Sparrow; Bachmans Sparrow; Slate-colored Junco; Chipping Sparrow; Clay-colored Sparrow; Field Sparrow; White-crowned Sparrow; White-throated Sparrow; Lincoln's Sparrow; Swamp Sparrow; Song Sparrow.

⁶⁴ Aug. 15, 1958, 10 U.S.T. 1703; T.I.A.S. 4321; 358 U.N.T.S. 63.

⁶⁵ 105 Cong. Rec. 9845-47 (1959).

never been enacted,⁶⁶ the United States Department of State considers the Convention to be in force.⁶⁷ The Commission for the Conservation of Shrimp in the Eastern Gulf of Mexico composed of representatives from each nation held a first meeting in Savannah on June 30, 1960 at which it agreed upon a research and evaluation program to achieve the purposes of the Convention.⁶⁸ No substantive regulations resulted from the meeting and there have been no subsequent meetings of the Commission, presumably because of the strained relations between the two countries. Yet the Dry Tortugas shrimp fishery remains a subject of concern and considerable controversy.

In Millikin v. State of Florida⁶⁹ Florida residents appealed their conviction of "dragging shrimp nets in a prohibited area" in violation of Florida Law.⁷⁰ Appellants

⁶⁶Whiteman, Digest of International Law, Vol. 4 (1965) notes, at 1037, that: "On May 12, 1960, the Senate Interstate and Foreign Commerce Committee ordered favorably reported with amendment S. 2867, a bill to give effect to the Convention between the United States and Cuba for the Conservation of Shrimp. On May 26, 1960, the Senate passed the amended S. 2867, to give effect to the Convention. . . . 106 Cong. Rec., 86th Cong., 2d sess., pp. 11202-112-3. S. 2867 was referred to the House Committee on Merchant Marine and Fisheries on May 27, 1960. Ibid., p. 11394. The bill died in Committee."

⁶⁷Personal communication from Mr. Ronald Goddard, Cuban Affairs Desk, Department of State, Miami, May, 1971.

⁶⁸43 Bulletin, Department of State, No. 1100 147-48, July, 1960.

⁶⁹131 So.2d 889 (1961).

⁷⁰Fla. Stat. § 370.151(5) (1969).

contended that the entry of the United States into the Treaty with Cuba preempted the field of shrimp conservation in the area and that any statute of the State of Florida purporting to regulate the taking of shrimp in the Tortugas Shrimp Beds was therefore inoperative and unenforceable. The Supreme Court of Florida rejected this argument and ruled that the Florida statute was designed to conserve the supply of shrimp in the Tortugas area and compatible with the Convention as a state regulation which did not preclude the discharge of the Commission's responsibilities.

A recent controversy concerning the Dry Tortugas shrimp fishery involved the enforcement of the Florida conservation statute against Cuban rather than United States nationals. In United States v. Florida⁷¹ the State of Florida was enjoined from enforcing its laws or otherwise interfering with fishing by foreign vessels in the waters of the Gulf of Mexico more than twelve miles from shore. The federal government argued that such regulation by Florida would threaten to embarrass the United States in its foreign relations and jeopardize its international policies, among which was the obligation to respect freedom of the high seas. The ruling of the Court is significant in this context because it

⁷¹Civil No. 1672 (N.D. Fla. T.R.O. granted December 18, 1970, Prelim. Inj. granted December 28, 1970).

granted injunctive relief to protect the interests of the United States in fulfilling its international obligations in the absence of any specific statute authorizing such relief.

c. Application to the Water Rights of Everglades
National Park

Drainage and other water management activities which alter the timing, quantity of the fresh-water flowing to the estuaries of southern Florida adversely affect both migratory birds and pink shrimp which are protected by the treaties discussed above. Yet the treaties offer no express protection against such threats.

The existence of treaties to protect migratory birds and pink shrimp are best viewed as a declaration of federal interest in these resources and are most useful as a basis for the assertion of the federal power to regulate interstate and foreign commerce.⁷² The importance of the migratory birds and pink shrimp and their dependence upon the Park was noted by the House Committee on Interior and Insular Affairs in its report on a bill to acquire lands for inclusion in the Park.

This acquisition will be of great value in protecting the bird population, which is one of the chief beauties and attractions of the park;

⁷²Discussed, text at notes 47-54, supra.

in protecting the coastal fisheries, particularly the shrimp fisheries, the breeding and nursery grounds for which are in the mangrove swamps. . . .

. . . .
Everglades National Park provides a resting and feeding stopover for many species of waterfowl, wading birds, and songbirds on their annual migrations and nesting grounds for other migratory birds protected under treaties with Great Britain and Mexico. The park plays a very significant role in providing sanctuary for endangered resident and migratory birdlife.

. . . .
Thus, the future of the commercial and game fisheries and endangered birds hinges to a large degree on habitat preserved within the boundaries of the Everglades National Park.⁷³

These considerations would clearly justify legislation to regulate and prohibit activities such as drainage and pollution which affect interstate and foreign commerce. Yet, as noted in the preceding section, it might be argued that no additional legislation is necessary and that the federal government could litigate to enjoin such activities which adversely affect interstate and foreign commerce and interfere with the discharge of its international responsibilities.⁷⁴

⁷³H. R. Rep. No. 1854, 85th Cong., 2d Sess. (1958) in 1958 U.S. Code Cong'l. and Admin. News, 2853-55. See also Report of Acting Sect'y of State Christian Herter to the President submitting the Conv. for the Conservation of Shrimp, 43 Bull., Dept. of State, 566-67 (1959).

⁷⁴In *Sanitary District of Chicago v. United States*, 266 U.S. 405, 45 S. Ct. 176, 69 L. Ed. 352 (1925), the Court held: "The United States is asserting its sovereign power to regulate commerce and to control the navigable waters within its jurisdiction. It has standing in this suit not only to remove obstructions to interstate and foreign commerce . . . but also to carry out treaty obligations to a foreign power. . . . The Attorney General by virtue of

3. The Property Clause and the Reserved Rights Doctrine

Everglades National Park is United States property. The federal government exercises powers with respect to that property pursuant to the property clause of the U.S. Constitution which provides that:

The Congress shall have power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States. . . .⁷⁵

United States v. Rio Grande Dam & Irr. Co.⁷⁶ was a seminal case in the entire field of federal powers over water resources. Although that case was decided on the basis of the navigation powers of the federal government, the Court stated that:

. . . in the absence of specific authority from Congress a State cannot by its legislation destroy the right of the United States, as the owner of lands bordering on a stream, to the continued flow of its waters; so far at least as may be necessary⁷⁷ for the beneficial uses of the government property.

his office may bring this proceeding and no statute is necessary to authorize the suit. 266 U.S. 405, 425-26 (1925). See also, U.S. v. San Jacinto Tin Co., 125 U.S. 273 (1888); U.S. v. Republic Steel Corp., 362 U.S. 482, 80 S. Ct. 884, 4 L. Ed. 2d 903 (1960); Zschemnig v. Miller, 389 U.S. 567, 88 S. Ct. 664 (1968) in which the Court held that, even absent a federal statute, an Oregon statute establishing conditions under which an alien not residing in U.S. can take property in Oregon by succession or testamentary disposition constituted an intrusion by the state into the field of foreign affairs entrusted to Congress and the President by the Constitution.

⁷⁵U.S. Const., art. 4, § 3, cl. 2.

⁷⁶174 U.S. 690 (1899). Discussed in Chapter IV, text at notes 157-58, supra.

⁷⁷174 U.S. 690, 703 (1899).

The Park, as government property bordering on a stream, would, under this approach, be entitled to water for beneficial use in preserving the ecology of the area, absent specific authority from Congress to impair that right to water. This is true whether or not the stream is navigable, since the portion of the Rio Grande with which the Court in Rio Grande was concerned was nonnavigable.

Claims by the federal government to water resources incident to property ownership have resulted in the formulation of what is termed the "reserved rights doctrine" which recognizes the power of the United States, upon the withdrawal of lands from the public domain, to reserve water sufficient to fulfill the purposes for which the lands have been withdrawn. The application of this doctrine by the courts has generated considerable criticism and analysis by commentators.⁷⁸

Although the application of the reserved rights doctrine has thus far been limited to those states in which public

⁷⁸E.g. Bradshaw, Water in the Woods: The Reserved Rights Doctrine and National Forest Lands, 20 Stan. L. Rev. 1187 (1967); Meyers, The Colorado River, 19 Stan. L. Rev. 1, 65-73 (1966); Morreale, Federal-State Conflicts over Western Waters--A Decade of Attempted "Clarifying Legislation," 20 Rutgers L. Rev. 423 (1966); Veeder, Winters Doctrine Rights--Keystone of National Programs for Western Land and Water Conservation and Utilization, 26 Mont. L. Rev. 149 (1965); Note, Federal Water Rights Legislation and the Reserved Lands Controversy, 53 Geo. L. J. 750 (1965); Note, Indians, Water, and the Arid Western States--A Prelude to the Pelton Decision, 5 Utah L. Rev. 495 (1957); Note, 18 Rocky Mt. L. Rev. 427 (1946).

lands exist and which apply some form of prior appropriation system⁷⁹ for the determination of competing claims to use water, the language of the courts and the concept of reserved rights have potential application to the disputes regarding the water supply for the Everglades National Park.

The reserved rights doctrine was first articulated in Winters v. United States,⁸⁰ a case involving the water rights of the Fort Belknap Indian Reservation in Montana. Water users under the state permit system sought to overturn an order enjoining them from making further use of the waters of a nonnavigable river. They argued that they were "prior users" under the state system since the Indians had not complied with state procedures for appropriation of water. The Supreme Court rejected this argument and ruled that the treaty creating the reservation impliedly reserved waters for use upon the reservation.⁸¹ The

⁷⁹The predominant feature of the western system of prior appropriation is that a riparian or other landowner can appropriate, in perpetuity, the right to use as much water as he can successfully divert and beneficially employ as long as he does so prior to other users. This right of use may be lost only through abandonment and forfeiture. F. Maloney, S. Plager, F. Baldwin, *Water Law and Administration, The Florida Experience*, 194 (1968).

⁸⁰207 U.S. 564 (1908).

⁸¹207 U.S. 564, 577 (1908). This doctrine was subsequently applied in a series of cases involving water rights of Indian reservations owned by the federal government as trustee. See e.g. United States v. Powers, 305 U.S. 527 (1939); United States v. Athanum Irr. Dist., 236 F.2d 321 (9th Cir. 1956) (cert. denied, 352 U.S. 988 (1957)); United States v. Walker River Irr. Dist., 104 F.2d 334 (9th Cir. 1939); Conrad Investing Co. v. United States, 161 F. 829 (9th Cir. 1908). See generally Sondheim & Alexander, Federal Indian Water Rights: A Retrogression to Quasi-Riparianism?, 34 S. Cal. L. Rev. 1 (1960).

Winters case is significant because it authorized the federal government to secure its interest in water supply by preventing consumptive use of the waters before they reached the federal reservation.

Although most of the Indian cases after Winters have involved reservation created by treaty, the Ninth Circuit Court of Appeals stated in United States v. Walker River Irr. Dist.⁸² that "a statute or an executive order setting apart the reservation may be equally indicative of the intent" to reserve water and therefore equally efficacious in securing rights to water for the reservation.⁸³ The statute setting Everglades National Park apart for a specific federal purpose would appear to be sufficient under the language of the court in Walker River to establish the intent of the federal government to reserve water for the Park.

In California Oregon Power Co. v. Beaver Portland Cement Co.⁸⁴ the Supreme Court construed the Desert Land Act of 1877⁸⁵ as a congressional determination that all nonnavigable waters on lands patented under the Act should be reserved for the use of the public under the laws of the states and territories named.⁸⁶ Although

⁸²104 F.2d 334 (9th Cir. 1939).

⁸³Id. at 336.

⁸⁴295 U.S. 142 (1935)

⁸⁵19 Stat. 377 (1877), as amended 43 U.S.C. § 321.

⁸⁶295 U.S. 142, 162 (1935).

the Act applied to only some of the western states and not to Florida, it might be argued that the Swamp and Overflowed Lands Act of 1850⁸⁷ effected the same severance of waters from the lands granted and constituted an authorization from Congress to drain the lands to the north of the Park and thereby destroyed the right of the Park to unimpaired water flow. The effect of this Act has been discussed in Chapter IV⁸⁸ and the better view would seem to be that if any rights as against the state or federal government were granted, they were not such as would destroy the right of the federal government to water for the Park since the Park was not yet in existence and the grant could not therefore be the "specific authority from Congress" contemplated by the language of the Court in Rio Grande. An analogous situation was presented in FPC v. Oregon,⁸⁹ the "Pelton Dam" case. The Supreme Court restricted its holding in Beaver Portland by excepting "reserved lands" from the definition of "public lands" upon which the Desert Land Act of 1877 was held to have operated to sever waters and place them under the control of the states. The Court held that the Act of 1877 was not applicable to

⁸⁷9 Stat. 519, 43 U.S.C. § 982 (1964).

⁸⁸Chapter IV, text at notes 17-34, supra.

⁸⁹349 U.S. 435 (1955).

the lands in question since they were "reservations" and not "public lands" which it defined as lands open for sale and disposition to the public. The "reservations" in FPC v. Oregon consisted of an Indian reservation on one side and a power site reservation on the other side of a nonnavigable river. The Court held that the Act of 1877 did not operate upon either reservation, despite the fact that the reservation of the power site had been made in 1909. The Swamp and Overflowed Lands Act of 1850 should not therefore, under the rule of FPC v. Oregon operate to divest the federal government of rights to water for the Everglades National Park, despite the fact that there was no federal action to establish the Park and thereby "reserve" water for it until 1934.⁹⁰

The Court has not formulated a definition of "reserved lands" or "public lands" as distinguished in FPC v. Oregon, but has proceeded upon a case-by-case determination of the nature of the lands involved. It would appear from the cases that the distinctions adopted in federal administrative determinations and classifications reflect the salient distinctions. The following definitions serve as a useful guide in determining the applicability of the reservation doctrine:

⁹⁰48 Stat. 816, Ch. 371, 1, 2; 16 U.S.C. 410a (1964). Discussed, Chapter III, text at notes 13-20, supra.

Acquired land:

Lands in Federal ownership which are not public lands as defined below, acquired lands having been obtained by the Government through purchase, condemnation or gift, or by exchange for purchased, condemned or donated lands, or for timber on such lands.

Public land or public domain lands:

Original public domain lands which have never left Federal ownership; also, lands in Federal ownership which were obtained by the Government in exchange for public lands or for timber on public lands.

Reservation:

A withdrawal, usually of a permanent nature; also any Federal lands which have been dedicated to a specified public purpose.

Reserved land:

Federal lands which are dedicated or set aside for a specific public purpose or program, and which are, therefore, generally not subject to disposition under the operation of all of the public land laws.

Withdrawal:

An action which restricts the disposition of public lands and which holds them for specific public purposes; also, public lands which have been dedicated to public purposes.⁹¹

Tested by these definitions, the lands of the Everglades National Park would not be "public land or public domain lands" since they left federal ownership and were subsequently acquired from the State of Florida by grant or were donated by, condemned or purchased from private owners. They would not fall within the definition of "withdrawal" lands for the same reason. It would seem that they are reserved or reservation lands since those

⁹¹U.S. Dep't. of Interior, Public Land Statistics, 43-45 (1963).

definitions apparently include "acquired lands" which have been dedicated for a specific public purpose, in this case a national park, and not subject to disposition under the operation of all of the public land laws. For present purposes it is not necessary to distinguish between "reserved lands" and a "reservation." To the extent that these distinctions between "public lands" and "reserved lands" reflect those upon which the Court relied in FPC v. Oregon, the Everglades National Park would be an appropriate subject for application of the reserved rights doctrine.

Subsequent cases have expanded the reserved rights doctrine in language which strongly suggests that the doctrine is applicable to disputes regarding the water supply of the Park. In Arizona v. California⁹² the Court was presented with claims by the federal government to waters "for use on Indian Reservations, National Forests, recreational and wildlife areas and other governmental lands and works."⁹³

The Court ruled that the federal government had "prior perfected rights" which were vested and effective as of the time of the creation of the Indian reservations and that these rights extended to the withdrawal of water

⁹²373 U.S. 546 (1963) (opinion), 376 U.S. 340 (1964) (decree).

⁹³373 U.S. 546, 600

"to irrigate all the practically irrigable acreage" within the reservation.⁹⁴ This finding necessarily meant that users whose rights vested subsequent to the creation of the reservation would have to find another source of water if the use by the federal reservation exhausted the water supply or depleted it so as to cause them a deficit.⁹⁵

The Court in the Arizona case affirmed the ruling of the special master that "the principle underlying the reservation of water rights for Indian Reservations was equally applicable to other federal establishments such as National Recreation Areas and National Forests" and decreed reserved water rights for the Lake Mead National Recreation Area, the Havasu Lake Wildlife Refuge, the Imperial National Wildlife Refuge, and the Gila National Forest.⁹⁶ The extension of this doctrine to such lands was not accompanied by any discussion in the opinion of the Court but several observations and findings of the special master are significant with respect to the

⁹⁴Id.

⁹⁵This has led some commentators to conclude that the taking of such an existing state-created right to the use of water in a nonnavigable stream need not be compensated under this doctrine. Note, Federal Water Rights Legislation and the Reserved Lands Controversy, 53 Geo. L. Rev. 750 (1965).

⁹⁶373 U.S. 546, 601.

water rights of the Everglades National Park and deserve some attention. The special master asserted that the United States can reserve water for any federal establishment.⁹⁷ This statement is supported by the language of the Court in United States v. Walker River Irr. Dist.⁹⁸ that:

The power of the Government to reserve the waters and thus exempt them from subsequent appropriation by others is beyond debate. . . . The question is merely whether in this instance the power was exercised.⁹⁹

Bradshaw notes that in no case involving a claim by the federal government of reserved water rights has there been an express reservation of water by the Congress or the President.¹⁰⁰

The Everglades National Park was established to maintain and preserve the unique flora and fauna of the area¹⁰¹ and is critically dependent upon fresh-water flow from the north. This purpose and the dependence upon water supply for its fulfillment, raise a strong

⁹⁷Report of the Special Master in *Arizona v. California* 293 (1960) [hereinafter cited as Master's Report].

⁹⁸104 F.2d 334 (9th Cir. 1939).

⁹⁹Id. at 336. See also, *United States v. District Court In and For the County of Eagle*, ____ U.S. ____, 91 S. Ct. ____, 28 L. Ed. 2d 278, 281 (1971), discussed, text at f.n. 263-66 (*infra*) reaffirming the right of U.S. to reserve water for federal lands, including parks, independent of state water laws; Comment, 1 ELR 10056-58 (1971).

¹⁰⁰Bradshaw [*supra* note 78], at 1188.

¹⁰¹48 Stat. 817, 16 U.S.C. § 410 c.

presumption of intent to reserve water for the Park. Although thus far limited in application to western states and disputes under the appropriation system of water law, there is no language in the cases to suggest that it is not equally applicable to similar water rights problems such as those of the Park, under the eastern riparian system. The distinction between the two systems becomes increasingly less meaningful as eastern states such as Florida adopt techniques and approaches from the appropriation system to meet the needs of increased demand and water shortages.¹⁰² The reserved rights doctrine should be available to the federal government to prevent "appropriation" or consumptive use of water before it reaches the Park and should also serve to prevent pollution of waters which are reserved for federal use in the Park since such pollution frustrates the purpose for which the reservation was made no less than denial of the requisite quantity of water. It is potentially applicable to water rights of individuals under the Central and Southern Florida Flood Control District¹⁰³ since such rights are similar to those of water users under the appropriation system of permits

¹⁰²See discussion, Chapter IV text at notes 98-142 supra.

¹⁰³Discussed Chapter IV, text at notes 120-42, supra.

in the western states. The doctrine should also be applicable to activities of private landowners outside the Flood Control District in the western portion of the watershed supplying the Park with water.

4. The Constitutional Right to a Quality Environment

The emergence in recent times of an environmental awareness and a concomitant appreciation of the enormity and complexity of the problems to be resolved have generated several theories upon which a constitutional right to a quality environment might be founded.¹⁰⁴ The purpose of this section is to outline the theories upon which such a right might be founded and to indicate its potential applicability to the disputes regarding the water rights of the Park.

a. The Organic Law and the Living Constitution

The Constitution of the United States was drafted to serve the needs of an 18th century agrarian republic which was sparsely populated and localized on the eastern seaboard. As Baldwin notes, "It is difficult to believe that in the summer of 1787 fifty-five delegates

¹⁰⁴E.g., Roberts, "The Right to a Decent Environment: Progress Along a Constitutional Avenue," Law and the Environment, 135 (M. Baldwin, ed. 1970); Kent, "Under 9th Amendment, What Are Others Retained by the People?", 29 Fed. B. J. 219 (1970); Cohen, Legal Defense of Environmental Rights, Trial, August-September 1969, at 27; "Toward a Constitutionally Protected Environment," Note, 56 Va. L. Rev. 458 (1970) upon which much of this discussion is based.

from twelve states could visualize, even in their wildest dreams, the United States of the mid-20th century."¹⁰⁵ The radical changes that have taken place in the nature and character of this nation since its inception make it clear that had the Constitution not been an extraordinarily flexible instrument, it would not have survived the critical tests of socio-economic change which have characterized the history of this nation.

The role of a "living constitution" and the need to interpret the Constitution so as to maintain government stability and continuity while at the same time meeting the needs of changing society have been recognized by the courts. In Missouri v. Holland¹⁰⁶ Justice Holmes noted that:

. . . when we are dealing with words that also are a constituent act, like the Constitution of the United States, we must realize that they have called into life a being the development of which could not have been foreseen completely by the most gifted of its begetters. It was enough for them to realize or to hope that they had created an organism; it has taken a century and has cost their successors much sweat and blood to prove that they created a nation. The case before us must be considered in the light of our whole experience and not merely in that of what was said a hundred years ago.¹⁰⁷

¹⁰⁵F. Baldwin, Role of the Federal Government, 21 Urban Environmental Problems 19, 21 (1967).

¹⁰⁶252 U.S. 416, 40 S. Ct. 382, 64 L. Ed. 41 (1920).

¹⁰⁷Id. at 434.

b. The Fundamental Nature of Environmental Integrity

Environmental integrity is a fundamental value. It is perhaps the most fundamental of all human values if the priority for judging relative values is one of survival and if the prophets of doom among environmentalists are correct about the inevitable and impending ecological catastrophe which will result from continued environmental degradation.¹⁰⁸ Constitutionally protected rights of free speech, assembly, religion and protection afforded by the fifth and fourteenth amendments against any state depriving any person of life, liberty or property without due process of law would be rendered moot by the environmental catastrophe which is predicted by experts unless the traditional and present course of human conduct toward the natural environment is redirected to conform to the ecological imperative.¹⁰⁹ To the extent that environmental integrity is essential to life or for the quality of life, the value of a functioning and quality environment to sustain all other

¹⁰⁸E.g., R. McCluney (ed.) *The Environmental Destruction of South Florida*, 1971; Editors of *Fortune*, *The Environment*, 1970; J. Esposito, *Vanishing Air*, 1970; G. De Bell (ed.), *The Environmental Handbook*, 1970; P. Ehrlich, *The Population Bomb*, 1968; W. Marx, *The Frail Ocean* 1969; R. Rienow and L. Rienow, *Moment in the Sun*, 1969; G. Marine, *America the Raped*, 1969.

¹⁰⁹Discussed, Chapter II, text at notes 15-16, supra.

human activities is the most important and basic value of human society and a condition precedent to all the efforts and protections afforded by law to secure and enhance human existence.

Specific textual reference in the Constitution to a right of environmental integrity is obviously lacking. Yet such reference is not a prerequisite to recognition of constitutional protection. Unenumerated rights may be protected when they are of a fundamental nature such as the right to environmental integrity.

In Griswold v. Connecticut¹¹⁰ the Supreme Court invalidated an anti-birth control statute, finding that it intruded upon the marriage relationship which was "within the zone of privacy created by several fundamental constitutional guarantees."¹¹¹ These "peripheral" or "penumbral" rights are protected by the Constitution if their "existence is necessary in making the express guarantees fully meaningful."¹¹²

In a concurring opinion Justice Harlan stated that such a right is protected by the due process clause of the fourteenth amendment as one of the "basic values

¹¹⁰381 U.S. 479 (1969).

¹¹¹Id. at 485. Justice Douglas asserted that the first, third, fourth, fifth and ninth amendments each created a zone of privacy. Id. at 484.

¹¹²Id. at 483.

"implicit in the concept of ordered liberty"¹¹³ and the concurring opinion of Justice Goldberg, in which Chief Justice Warren and Justice Brennan joined, asserted that the fundamental right of marital privacy is protected by the ninth amendment, an argument which "lends strong support to the view that the 'liberty' protected by the Fifth and Fourteenth Amendments . . . is not restricted to rights specifically mentioned in the first eight amendments."¹¹⁴ Under this substantive due process approach of the fourteenth amendment, the right claimed must be both personal and fundamental. The fundamental nature of the right is determined with regard to history, societal values and the doctrines of federalism and separation of powers¹¹⁵ and must be so rooted in "the traditions and (collective) conscience of our people . . . as to be ranked as fundamental."¹¹⁶ As one commentator notes,

In the abstract, the right to a salubrious environment satisfies both tests of constitutionality. If the environment is destroyed, human life will perish. Under the "penumbra" theory, one's Bill of Rights guarantees are more "meaningful" if he is alive to enjoy them; under the substantive due process approach, the preservation

¹¹³Id. at 500 quoting *Palko v. Connecticut*, 302 U.S. 319, 325 (1937).

¹¹⁴Id. at 493.

¹¹⁵Harlan, J., 381 U.S. 479, 501.

¹¹⁶Goldberg, J., 381 U.S. 479, 493

of the species is probably the most fundamental value of our, or any, society.¹¹⁷

c. Statutes and Case Precedents

The discussion in this and the previous Chapter has suggested that Congress and the federal courts have demonstrated a willingness to afford environmental values protection and to grant standing to a large class of groups and individuals to protect such values.¹¹⁸ This recognition by the courts of the underlying public interest in environmental integrity supports the argument that the interest is a fundamental one protected by the Constitution.

The legislative history of Section 101(c) of the National Environmental Policy Act of 1969¹¹⁹ is instructive in this regard. That section provides:

The Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment,

and is a conference substitute reflecting a compromise by the conferees with respect to a provision in the Senate

¹¹⁷Note, Toward a Constitutionally Protected Environment, 56 Va. L. Rev. 458, 463, citing Murphy, The Necessity to Change Man's Traditional View of Nature, 48 Neb. L. Rev. 299, 321 (1969); Roberts, supra note 1; Skinner v. Oklahoma, 316 U.S. 535 (1942).

¹¹⁸See especially Chapter IV, text at notes 202-42 and Chapter V, text at notes 1-46, supra.

¹¹⁹Pub. L. 91-190, 42 U.S.C.A. 4331-47 (1971).

bill which stated that the Congress recognizes that "each person has a fundamental and inalienable right to a healthful environment. . . ."120 This language was not in the House bill.¹²¹ The Conference Report states that "the compromise language was adopted because of doubt on the part of the House conferees with respect to the legal scope of the original Senate provision."¹²² The doubt of the House conferees was presumably concerned with the extent to which such a provision could or would serve to recognize the inalienable and fundamental nature of the right to a quality environment so as to give it constitutional protection. The compromise language appears to approach as near as possible to this result without actually accomplishing it. That final step remains for the courts.

d. The State Action Requirement Under the Fourteenth Amendment

The definition of a constitutional right to environmental integrity, like that of privacy and others, would depend upon a case-by-case presentation of claims and adjudication of competing interests. In general

¹²⁰S. 1075.

¹²¹H. R. 12549.

¹²²Conference Report No. 91-765, 91st Cong., 1st Sess. (1969) in 1969 U.S. Code, Cong'l. and Admin. News, 3166-67.

terms, the right of the public to environmental integrity should protect it against unreasonable degradation of the environment and the standard of reasonableness should include the capacity of the environment to sustain the challenged activity and regard for compensating or countervailing public interests and the rights of individuals.¹²³

Such a right could be asserted under 42 U.S.C. § 1983 which provides:

Every person who, under color of any statute, ordinance, regulation, custom or usage, of any State or Territory, subjects, or causes to be subjected, any citizen of the United States or other person within the jurisdiction thereof to the deprivation of any rights, privileges, or immunities secured by the Constitution and laws, shall be liable to the party injured in an action at law, suit in equity, or other proper proceeding for redress.

A federal court could award relief under this statute if it found governmental involvement in unreasonable environmental degradation and the fact that private individuals might be primarily responsible would not necessarily preclude relief. The Supreme Court has held in a series of cases that a state's failure to protect certain rights,

¹²³This approach is suggested in Note, Toward a Constitutionally Protected Environment, 56 Va. L. Rev. 458, 473 (1970): "Although cigarette smoking and campfires undoubtedly pollute the air, their slight harm does not justify constitutional retribution; nor should the Constitution prohibit all new highways which break virgin ground. By interpreting the right to proscribe only unreasonable interference with the environment, courts could accommodate necessary concessions to individual liberty and societal progress. At the same time, however, once a court determined that a particular instance of degradation was unreasonable, relief would be available unless a compelling state interest in continuing the degradation were shown."

inaction will satisfy the requirements of the statute.¹²⁴
 The court may employ several theories to find state
 action or custom which violates the statute.¹²⁵

The recent case of Adickes v. Kress and Co.¹²⁶
 illustrates this approach. The Supreme Court ruled
 that the state action requirement of section 1983 would
 be satisfied if plaintiff proved that she was refused
 service on grounds of race "because of a state enforced
 custom of segregating the races in public restaurants."¹²⁷
 Such a showing could be made by proving that "police would
 intentionally tolerate violence or threats of violence
 directed toward those who violated the practice of segre-
 gating the races at restaurants,"¹²⁸ or by other evidence
 of a "longstanding and still prevailing state enforced
 custom."¹²⁹

¹²⁴Amalgamated Food Employees Local 590 v. Logan Valley Plaza, Inc., 391 U.S. 308 (1967); Marsh v. Alabama, 326 U.S. 501 (1946); Burton v. Wilmington Parking Authority, 365 U.S. 715 (1961); Shelley v. Kraemer, 334 U.S. 1 (1948).

¹²⁵See Note, 56 Va. L. Rev. 458, 475-76.

¹²⁶398 U.S. 144, 90A. S. Ct. 1598, 26 L. Ed. 2d 142 (1970).

¹²⁷Id. at 171, 90A. S. Ct. 1598, 1615, 26 L. Ed. 2d 142, 162 (1970).

¹²⁸398 U.S. 144, 172, 90A S. Ct. 1598, 1616, 26 L. Ed. 2d 142, 162.

¹²⁹398 U.S. 144, 173, 90A S. Ct. 1598, 1616, 26 L. Ed. 2d 142, 162.

The state action requirement is more easily satisfied in cases in which the state has sanctioned, by license, permit or other action, the actions of individuals which result in unreasonable environmental degradation,¹³⁰ and in those cases in which state enforcement is inadequate and environmental degradation continues to occur despite state regulations and other measures.¹³¹

A constitutional right to environmental integrity could be asserted under section 1983 against most, if not all, of the activities threatening the integrity of the water flow to the Everglades National Park. The maintenance of the natural water quality and quantity flowing to the Park is essential and fundamental to its survival. It is also essential to the survival of numerous and valuable organisms in the region, including man, since the municipal supplies of drinking water are recharged by the sheet flow of water to the south. In this sense, if not others, it is a fundamental right, and might be recognized as such by the Court.

The right could be asserted against the Corps of

¹³⁰C.f. *Evans v. Newton*, 382 U.S. 296 (1966); *Burton v. Wilmington Parking Authority*, 365 U.S. 715 (1961).

¹³¹C.f. *Public Utilities Comm. v. Pollak*, 343 U.S. 451 (1952) in which the Court found the requisite state action in the fact that the Commission had dismissed a complaint against a bus company whose practices allegedly violated passengers' first and fifth amendment rights.

Engineers and the Central and Southern Florida Flood Control District for continued drainage operations, failure to enforce regulations and for granting permits which damage the Park. It could be asserted against private individuals and groups who act under permissive statutes as well as against those who drain and/or pollute, so as to impair or diminish the quality, quantity, and timing of the natural water flow in violation or in compliance with federal, state, or county pollution control codes. It is hoped that the Court would find the state action requirement satisfied in such cases, but this and other aspects of the constitutional question are not yet supported by decisions of the Court.

It could be argued that such activities constitute an infringement of the constitutional right to environmental integrity since they result in unreasonable degradations of the environmental quality. A plaintiff might attempt to bring such an action in federal court without first seeking relief from state agencies or courts.¹³²

C. Statutory and Common-Law Rights and Remedies Incident to the Ownership of Real Property

1. The Prior Sovereign Doctrine and Claims Under Spanish Grants

Article II of the Treaty of Amity, Settlement and Limits of February 22, 1819 between Spain and the

¹³²Monroe v. Pape, 365 U.S. 167, 180, 183 (1961).

United States¹³³ provided that:

His Catholic Majesty cedes to the United States, in full property and sovereignty, all the territories which belong to him, situated to the eastward of the Mississippi, known by the name of East and West Florida. . . .

Article VIII excepted from this cession lands previously granted by Spain and provided that:

All the grants of land made before the 24th of January, 1818, by his Catholic Majesty, or by his lawful authorities, in the said territories ceded by his Majesty to the United States, shall be ratified and confirmed to the persons in possession of the lands, to the same extent that the same grants would be valid if the territories had remained under the dominion of his Catholic Majesty.

Under an accepted doctrine of international law, the law of the prior sovereign remains in force in ceded territory until modified by the new sovereign.¹³⁴ This doctrine also secures grants of private property against dispossession by a subsequent sovereign. The Supreme Court recognized the vitality and validity of the prior sovereign doctrine as it applies to disputes concerning the lands of southern Florida in United States v. Percheman.¹³⁵ Chief Justice Marshall noted that:

¹³³Whitfield's Notes, Fla. Stat. Vol. 3, 102 (1941).

¹³⁴For a discussion of the application of this doctrine to rights of Indians in the United States and the effect of the change from Spanish to U.S. sovereigns see F. Cohen, *The Legal Conscience*, 245, 249, 280, passim (1960).

¹³⁵32 U.S. 51, 7 Pet. 51, 8 L. Ed. 604 (1833).

. . . It is very unusual, even in cases of conquest, for the conqueror to do more than to displace the sovereign and assume dominion over the country. The modern usage of nations which has become law, would be violated; that sense of justice and right which is acknowledged and felt, by the whole civilized world would be outraged, if private property should be generally confiscated, and private rights annulled. The people change their allegiance; their relation to their ancient sovereign is dissolved; but their relations to each other, and their rights of property, remain undisturbed. If this be the modern rule, even in cases of conquest, who can doubt its application to the case of an amicable cession to territory? Had Florida changed its sovereign by an act containing no stipulation respecting the property of individuals, the right of property in all those who became subjects or citizens of the new government would have been unaffected by the change; it would have remained the same as under the ancient sovereign. The language of the second article conforms to this general principle. . . . A cession of territory is never understood to be a cession of the property belonging to its inhabitants. The king cedes that only which belonged to him; lands he had previously granted, were not his to cede. Neither party could so understand the cession; neither party could consider itself as attempting a wrong to individuals, condemned by the practice of the whole civilized world. The cession of a territory, by its name, from one sovereign to another, conveying the compound idea of surrendering at the same time the lands and the people who inhabit them, would be necessarily understood to pass the sovereignty only, and not to interfere with private property.¹³⁶

With regard to Article VIII of the Treaty, Justice Marshall noted that:

This article is apparently introduced on the part of Spain, and must be intended to stipulate expressly for that security to private property which the laws and usages

¹³⁶ 32 U.S. 51, 86 (1833).

of nations would, without express stipulation, have conferred. No construction which would impair that security further than its positive words require, would seem to be admissible. Without it, the titles of individuals would remain as valid under the new government as they were under the old; and those titles, so far at least as they were consummate might be asserted in the courts of the United States, independently of this article.¹³⁷

Approximately three million acres of the nearly thirty million acres ceded to the United States had been previously granted to private individuals by the Spanish Sovereign.¹³⁸ These grants have been the subject of considerable litigation.¹³⁹ The rights of property and the relations between property owners which obtained in Florida under Spanish sovereignty may be asserted by a private landowner holding title under Spanish grant. The cases dealing with the effect and validity of such Spanish grants uniformly confirm title in such individuals holding ratified and confirmed grants but the issue in these cases has involved title and not rights of use or other incidents of title. Water

¹³⁷Id. at 88.

¹³⁸Id. at 89.

¹³⁹E.g. United States v. Arredondo, 31 U.S. 691, 6 Pet. 691, 8 L. Ed. 547; Mitchell v. United States, 34 U.S. 711, 9 Pet. 711, 9 L. Ed. 283; Apalachicola Land & Development Co. v. McRae, 86 Fla. 393, 98 So. 505; Keech v. Enriquez, 28 Fla. 597, 10 So. 91; Wilson v. Knight, 48 Fla. 196, 37 So. 186; Sullivan v. Richardson, 33 Fla. 1, 14 So. 692; Florida Town Imp. Co. v. Bigalsky, 44 Fla. 771; 33 So. 450; Norton v. Jones, 83 Fla. 81, 90 So. 854; Commodores Point Terminal Co. v. Hudnal, 283 F. 150; Sanchez v. Deering, 298 F. 286; Sanchez v. Deering, 3 F.2d 841; Sanchez v. Deering, 270 U.S. 227, 70 L. Ed. 556, 46 S. Ct. 214.

rights are universally recognized as at least quasi-property rights and would seemingly be included within the class of those rights secured by the operation of the prior sovereign doctrine and specifically protected by the Treaty of Cession, Article VIII. Such grantees could assert rights to the natural flow of surface water under Spanish civil law rule which protected the natural flow of surface waters, diffused or defined, against diversion, increase or diminution in quantity, and against pollution.¹⁴⁰

The Texas Supreme Court considered whether an easement to drain surface waters onto a lower estate created by Spanish grant can be destroyed by a court's adoption of a contrary rule of tort, property or water law. The court ruled that such an easement could not be destroyed in such a manner since the easement was part of the sovereign's grant to the landowner and was a vested right protected by the constitution of the state.¹⁴¹ Application of this rule by the Florida courts would assure the validity of claims under Spanish grants to receive the natural flow of surface water. Maloney suggests that claims to water rights under Spanish grants

¹⁴⁰The Civil Law Rule is discussed in Chapter IV, text at notes 74-96 supra.

¹⁴¹*Miller v. Letzerich*, 49 S.W.2d 404 (Tex. 1932) discussed in F. Maloney, S. Plager, F. Baldwin, *Water Law and Administration, The Florida Experience*, 207 (1968).

would not be a great problem in Florida because the courts have followed the approach of the civil law to a great extent.¹⁴² Although claims under Spanish grants may pose no significant problems, they enjoy an advantage as compared to similar claims by other landowners. Application of the rule established in the Texas case would assure that such claims would not be subjected to the mitigating influence of the reasonable use rule which the courts of Florida might otherwise apply in resolving competing claims to water use and supply.¹⁴³ Nor would such claims be subject to statutory modification by orders such as those of the Flood Control District.¹⁴⁴

A landowner who holds title under Spanish grant to land located between the Park and a drainage district or other modification of the natural flow of surface waters, could be of value to the Park. Such a landowner could assert his rights to the natural flow of surface waters and, if successful, maintain the integrity of at least that portion of the natural flow to the Park. Efforts should be undertaken to identify such lands and enlist the support of the landowners.

¹⁴²Id.

¹⁴³Discussed, Chapter IV, text at notes 63-68, 97 supra.

¹⁴⁴Discussed, Chapter IV, text at notes 120-42, supra.

2. Implied Easements

An easement is a privilege without profit which the owner of a dominant estate has a right to enjoy in or over the servient estate of another person. The owner of the servient estate is required to suffer or refrain from doing some affirmative act on his own lands for the advantage of the owner of the dominant estate.¹⁴⁵ As in the case of the civil law rule which secures the natural flow of surface waters, the doctrine of easements is of interest and significance in this context as a means of restraining an owner of a servient estate from altering the quality, quantity and timing of the fresh-water flowing to the downstream dominant estate, in this case the Park.

An easement may be created by express grant, by prescription or by implication.¹⁴⁶ Of the three types, easements created by implication are the most useful in securing the natural flow of surface water to the Park in the present situation. Express flowage easements could be negotiated but few such easements now exist. Easements by prescription are not useful in

¹⁴⁵Burdine v. Sewell, 92 Fla. 375, 109 So. 648 (1926); J. C. Vereen & Sons v. Houser, 123 Fla. 641, 167 So. 45 (1936).

¹⁴⁶Manning v. Hall, 110 So.2d 424 (2d D.C.A. 1959); Dinkins v. Julian, 122 So.2d 620 (2d D.C.A. 1960); Wyatt v. Parker, 128 So.2d 431 (2d D.C.A. 1961).

this context since the creation of a prescriptive right requires actual, continuous, uninterrupted and adverse use by the claimant of another's lands for a period of twenty years.¹⁴⁷ The use required by adverse possession, must be so open, notorious, continuous, hostile, and visible that knowledge of the use and adverse claim are imputed to the owner and the use must be such that the owner has a right to a legal action to stop it.¹⁴⁸ The use by the Park of surface water flowing through wetlands to the north is not the sort of use contemplated by the doctrine of easement by prescription.¹⁴⁹

The essential elements for the creation of an easement by implication are: separation of title; necessity that the use which gives rise to the easement shall have been continuous, permanent and obvious, and; the necessity that the easement be essential to the

¹⁴⁷Florida Power Corp. v. McNeely, 125 So.2d 311 (2d D.C.A. 1960); J. C. Vereen & Sons v. Houser, 123 Fla. 641, 167 So. 45 (1936).

¹⁴⁸J. C. Vereen & Sons v. Houser, 123 Fla. 641, 167 So. 45 (1936); Downing v. Bird, 100 So.2d 57 (1958); Hunt Land Holding Co. v. Schramm, 121 So.2d 697 (2d D.C.A. 1960).

¹⁴⁹W. Burby, Handbook of the Law of Real Property, 82 (1965) notes that: "Even if a riparian owner is entitled to the use of water, he may choose to forego his right and allow the water to flow to a lower riparian owner. By using the water the lower owner cannot acquire a prescriptive right. This follows from the fact that the upper owner does not have a cause of action against the lower owner because the lower owner is not invading the legal rights of the upper owner. In explaining this rule it is sometimes stated that "prescription may not go upstream."

beneficial enjoyment of the land granted or retained.¹⁵⁰

The requirement that there be a separation of title implies a former unity of ownership of the separated dominant and servient estates. An implied easement cannot exist where neither the party claiming it nor the owner of land over which it is claimed nor anyone under whom they or either of them claim was ever seized of both tracts of land.¹⁵¹ The common source of title must be one other than the original grant made by the state or federal government.¹⁵² An easement may be held to have been impliedly created in view of the circumstances existing at the time of the conveyance which would make such an easement necessary for complete enjoyment of the estate granted or reserved,¹⁵³ and where the use giving rise to the easement was continuous, apparent, permanent and necessary when the estates were unified.¹⁵⁴ Water rights are considered to be such apparent uses as give rise to an easement.¹⁵⁵

¹⁵⁰11 Fla. Jur. § 17, Easements and Licenses, 238.

¹⁵¹Kirma v. Norton, 102 So.2d 653 (2d D.C.A. 1958); Kinkins v. Julian, 122 So.2d 620 (2d D.C.A. 1960).

¹⁵²Joyner v. Andrews, 137 So.2d 870 (2d D.C.A. 1962).

¹⁵³Kirma v. Norton, 102 So.2d 653 (2d D.C.A. 1958).

¹⁵⁴Id.

¹⁵⁵11 Fla. Jur., § 10, Easements and Licenses, 230.

The doctrine of easement by implication and the closely-related doctrine of easement by estoppel may be applied to the facts leading to the establishment of the Everglades National Park in an attempt to secure the natural flow of fresh-water to the Park. Detailed research of title to the lands involved would be necessary, yet the outlines of the theory may be indicated.

The purposes of the creation of the Everglades National Park were to preserve and maintain the unique flora and fauna of the region in its natural primitive condition.¹⁵⁶ The integrity of the traditional flow of fresh-water to the Park was necessary to the enjoyment of the estate conveyed for purposes of creating the Park. It would seem that the conveyances made for the purposes of creating the Park would satisfy the requirements for the creation of a flowage easement by implication, where there was the requisite unity of title.

The federal government took title to the lands which now comprise the Park from the State of Florida and from private landowners. These lands were acquired by donation, purchase, and condemnation. Such lands in the Park and those retained by the state or private landowners would exhibit the requisite unity of title. These lands and those subsequently retained or conveyed by those

¹⁵⁶48 Stat. 817, 16 U.S.C. 410c (1964).

landowners might be held to be servient estates subject to an easement restricting activities on that estate so as to secure the natural water flow to the dominant estate of the Park. Such an easement might be held to apply to the lands retained or subsequently conveyed by the Collier Corporation which donated approximately 30,000 acres to the State of Florida for inclusion in the Park.¹⁵⁷ Owners of smaller tracts of land who hold title under such landowners might be held to have taken title with notice of the easement in favor of the Park in cases where they purchased lands at or subsequent to the date of the creation of the Park. Such cases would be similar to those involving the purchase of lands with reference to a plat or map showing streets or ways and giving rise to an easement.¹⁵⁸

Such landowners might be estopped to deny the right of the Park to the continued natural flow of fresh-water through their lands for the purpose of preserving the natural primitive conditions of the Park¹⁵⁹

¹⁵⁷Hearings on H. R. 1854, Before House Comm. on Interior and Insular Affairs, 85th Cong., 2d Sess. (1958) in 1958 U.S. Code, Cong'l. and Admin. News, 2853.

¹⁵⁸11 Fla. Jur. § 19, Easements and Licenses; Kirma v. Norton, 102 So.2d 653 (2d D.C.A. 1958); Owen v. Yount, 198 So.2d 360 (2d D.C.A. 1967).

¹⁵⁹C.f. United Contractors, Inc. v. United Construction Corp., 187 So.2d 695 (2d D.C.A. 1966); Quality Shell Homes & Building Supply Co. v. Roley, 186 So.2d 837 (1st D.C.A. 1967).

and such estoppel might be held to result in the creation of an easement in favor of the Park as a dominant estate and restricting any activities on the servient estate retained which might impair the quality, quantity and timing of water flowing to the Park.¹⁶⁰ Such an easement would be enforceable in an action on the case for disturbance of the easement or by injunction to protect against interference with the easement.¹⁶¹

3. Trespass

The law of trespass affords a landowner a remedy, in certain cases, against flooding of his lands caused by the activities of an upstream owner.¹⁶² It may be similarly

¹⁶⁰W. Burby, [supra, n. 149], at 76, notes that: "In the Michigan case of *City of Battle Creek v. Goguac Resort Ass'n*. (181 Micy. 241, 148 N.W. 441 (1914)) A was the owner of land that was riparian to a lake. He sold part of this land to the City of Battle Creek, knowing that the purpose of the City was to use the water from the lake for municipal purposes. Although A remained a riparian owner, he was estopped to use the lake for resort purposes with resultant contamination of the water. The easement acquired by the city was held to be enforceable as against subsequent purchasers of the servient estate."

¹⁶¹*Florida Power Corp. v. McNeely*, 125 So.2d 311 (2d D.C.A. 1960); *Kotick v. Durrant*, 196 So. 802 (1940).

¹⁶²For a discussion of the law and cases on this point, see F. Maloney, S. Plager, F. Baldwin, *Water Law and Administration, The Florida Experience*, 211-12 (1969).

useful in affording a downstream owner protection from pollution or diminution of the natural flow of water which results from activities of upstream landowners. This aspect of the law of trespass is undeveloped and would require judicial development of the doctrine on a case-by-case basis.¹⁶³ In addition to this common-law approach, state and federal statutory provisions offer some protection to the Park. The Board of Trustees of the Internal Improvement Trust Fund have authority to administer and protect state lands, waters and wildlife therein.¹⁶⁴ The Trustees might allege that deleterious activities upstream from state lands and waters and north of the Park constitute a trespass. The Trustees are authorized by statute to bring action in trespass¹⁶⁵ which is defined by statute "in its broadest and most liberal sense" to "include the cultivation, living upon, or any other use of such lands."¹⁶⁶ It

¹⁶³The development of the civil law rule to guarantee the natural quantity, quality and timing of water flow, discussed in Chapter IV, text at notes 74-96 supra is instructive in this regard.

¹⁶⁴Discussed in Chapter IV, text at notes 49-55 supra.

¹⁶⁵Fla. Stat. § 253.04 (1969) authorizes the Trustees to: "police, conserve, improve, prevent trespass, damage, or depredation upon the lands and the products thereof, on or under the same, owned by the state as set forth in 253.03."

¹⁶⁶Fla. Stat. 821.20 (1969).

might be argued that the use of lands and waters of the state by upstream landowners for disposal of wastes and the diversion and other modification of water flowing to those lands constitutes "trespass" in its broadest and most liberal sense." Federal trespass statutes proscribe activities on federal lands rather than those which affect those lands from outside their boundaries.¹⁶⁷ The legislation relating to the administration of Everglades National Park does, however, contain a provision which may serve to control some activities outside the boundaries of the Park.¹⁶⁸ That provision directs the Secretary of Interior to permit drainage through the natural waterways of the Park and the construction of structures for conducting water thereto unless the drainage or construction is seriously detrimental to the preservation and propagation of the flora

¹⁶⁷E.g. 18 U.S.C. § 41 (1964). Hunting, fishing, trapping; disturbance or injury on wildlife refuges: "Whoever, except in compliance with rules and regulations promulgated by authority of law, hunts, traps, captures, willfully disturbs or kills any bird, fish, or wild animal of any kind whatever, or takes or destroys the eggs or nest of any such bird or fish, on any lands or waters which are set apart or reserved as sanctuaries, refuges or breeding grounds for such birds, fish, or animals under any law of the United States or willfully injures, molests, or destroys any property of the United States on any such land or waters, shall be fined not more than \$500 or imprisoned not more than six months, or both."

¹⁶⁸Pub. L. 85-482, 72 Stat. 286, 16 U.S.C. § 410n (1964).

and fauna of the Park. The provision applies only to such "reclamation" activities conducted by the State of Florida, a subdivision thereof or a drainage district. Most, if not all major drainage and water "management" operations which affect the water flow to the Park are seriously detrimental to the ecology of the Park. Yet private non-governmental drainage or water diversion activities are not subject to the provision requiring the Secretary's permission. Most drainage and water diversion activities north of the Park ultimately require drainage through the natural waterways of the Park and this aspect of drainage activities could arguably extend the permit jurisdiction of the Secretary far northward with regard to governmental activities. Yet the language of the provision requires that the Secretary bear the burden of proving that the proposed drainage or construction will be detrimental to the ecology of the Park and the legislative history of the provision indicates that the provision was intended to apply only to construction within the boundaries of the Park and that the determinations of the Secretary were to reflect "a good neighbor policy."¹⁶⁹ This provision is therefore of only limited utility in securing the natural flow of water to the Park.

¹⁶⁹H. R. Rep. No. 1854, 85th Cong., 2d Sess. (1958) in 1958 U.S. Code, Cong'l. and Admin. News, 2857.

4. Private Nuisance

A private nuisance is an interference with an owner's use and enjoyment of his land as distinguished from trespass which is an invasion of his interest in the exclusive possession of the land.¹⁷⁰ The law of private nuisance is based upon the tenet that every person should so use his own property as not to injure that of another.¹⁷¹ Courts have employed a balancing process to determine whether an individual's use of his property is unreasonable with regard to the rights of others to use and enjoy their property.¹⁷² This aspect of the private nuisance doctrine has caused

¹⁷⁰W. Prosser, *Torts*, 615 (3d ed. 1964).

¹⁷¹In *Morgan v. High Penn. Oil Co.*, 238 N.C. 185, 193, 77 S.E.2d 682, 689 (1955) the court stated: "The law of private nuisance rests on the concept embodied in the ancient legal maxim . . . that every person should so use his own property as not to injure that of another. . . . As a consequence a private nuisance exists in a legal sense when one makes an improper use of his own property and in that way injures the land or some incorporeal right of one's neighbor. . . ."

¹⁷²In *Antonik v. Chamberlain*, 81 Ohio App. 465, 475, 78 N.E.2d 752, 759 (Summit County Ct. App. 1947) the court said: "The law of nuisance plys between two antithetical extremes: The principle that every person is entitled to use his property for any purpose that he sees fit, and the opposing principle that everyone is bound to use his property in such a manner as not to injure the property or rights of his neighbor. . . ."

plaintiffs considerable difficulty in actions to abate water pollution by injunction in private nuisance actions.¹⁷³ Yet private nuisance actions by owners of land located north of the Park may serve to secure portions of the natural flow of water to the Park and the outlines of the theory of such actions may be indicated.¹⁷⁴

Activities which pollute, diminish, or otherwise modify the natural flow of surface waters to a person's lands violate that landowner's rights under the civil law rule as it applies to diffused surface waters in Florida,¹⁷⁵ and violate the rights of landowners who hold title under Spanish grants.¹⁷⁶ Such activities are an invasion of the landowner's rights, interfere with the use and enjoyment of his lands and may be treated as nuisances. The question of balancing the injury to such a plaintiff against defendant's

¹⁷³For a discussion of this and other problems, see Special Problems of Water Pollution: The Private Sector, 1 U.C.D.L. Rev. 126 (1969); Hines, Nor Any Drop to Drink: Public Regulation of Water Quality, 52 Iowa L. Rev. 186, 196-201 (1966).

¹⁷⁴An action to abate a nuisance threatening or interfering with the use and enjoyment of the Park would be a public nuisance action and is discussed in the next section as a form of land and water use regulation.

¹⁷⁵Discussed, Chapter IV, text at n. 74-96, supra.

¹⁷⁶Discussed, Chapter V, text at n. 133-44, supra.

interests and other competing interests which may be served by such activities should not arise since such activities which modify the natural flow of water are unreasonable per se under the strict civil law approach. Indeed, under the strict common law rules, pollution of waters is an unlawful act and a nuisance, differing from diversion and obstruction to which there attaches the test of reasonable justification.¹⁷⁷ The rule of the early English cases is that "He whose dirt it is, must keep it that it may not trespass."¹⁷⁸ This rule is a part of the body of common law of Florida under the statute incorporating the common law of England prior to July 4, 1776¹⁷⁹ except to the extent that it may be argued to have been replaced by and be inconsistent with the laws of Florida or the United States.¹⁸⁰

Yet the language of the Florida courts suggests that the full force of the civil law rule is limited by the requirement that plaintiff show that diversion, diminution, increase or pollution of the natural water

¹⁷⁷Coulson & Forbes, *The Law of Waters and Land Drainage*, 193 (6th ed. 1952).

¹⁷⁸*Tenant v. Goldwin*, 1 Salk, 21, 360, 91 Eng. Rep. 20, 314 (K.B. 1704).

¹⁷⁹Fla. Stat. § 2.01 (1969).

¹⁸⁰For a discussion of this subject see Day, *Extent to which the English Common Law and Statutes are in Effect*, 3 U.Fla. L. Rev. 303 (1950).

flow be to his injury,¹⁸¹ and it has been suggested that courts will apply the reasonable use rule¹⁸² and employ the balance of convenience test in such cases, despite language which suggests the civil law or natural flow rules.¹⁸³

Even if the reasonable use test is employed by the courts in a private nuisance action by owners of land to the north of the Park to secure the integrity of the natural water flow,¹⁸⁴ the history of drainage

¹⁸¹Cases discussed in Chapter IV, text at notes 74-96.

¹⁸²Discussed as applied to natural watercourses, Chapter IV, text at notes 63-67, supra, and as applied to diffused surface waters, Chapter IV, text at n. 97, supra.

¹⁸³Hanks, The Law of Waters in New Jersey, 22 Rutgers L. Rev. 621, 670-71 (1968); F. Maloney, The Balance of Convenience Doctrine in the Southeastern States, Particularly as Applied to Water, 5 S.C.L.Q. 159 (1952).

¹⁸⁴The Restatement of Torts views the "reasonable use" test as a weighing of the utility of the defendant's use against the gravity of the resulting harm. Restatement of Torts § 852 (1939). Utility of the use should be measured by (a) the social value which the law attaches to the primary purpose for which the use is made; (b) the suitability of the use to the watercourse, or lake, and to the customs and usages existing with respect to it; (c) the impracticability of preventing or avoiding the harm; and (d) the classification of the use as riparian or nonriparian. Id. § 853. Gravity of the harm is measured by strikingly similar considerations: (a) the extent of the harm involved; (b) the social value which the law attaches to the particular type of use of water which is interfered with; (c) the suitability of such use to the particular watercourse or lake; (d) the burden on the proprietor harmed of avoiding the harm; and (e) the classification of the use as riparian or nonriparian. Id. § 854.

and development of southern Florida suggests that such activities are not reasonable, do not serve the public interest, and cause damage to the private landowners and the Park who desire to maintain the natural flow of surface water.¹⁸⁵ The water quality standards promulgated under the Federal Water Quality Act of 1965¹⁸⁶ might also be employed to provide a base line from which to judge the unreasonableness of defendant's activities with regard to impairment of water quality.¹⁸⁷ The determination of these standards involves the same balancing process as that which characterizes the approach of the courts to private nuisance actions under the reasonable use test. The Act provides that:

Standards of quality . . . shall be such as to protect the public health or welfare, enhance the quality of water, and serve the purposes (of this Act). . . . In establishing such standards the Secretary, the Hearing Board, or the appropriate State Authority shall take into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other legitimate uses.¹⁸⁸

¹⁸⁵Discussed in Chapters I and II.

¹⁸⁶Pub. L. No. 89-234, 79 Stat. 903, as amended 33 U.S.C. 466-66k (Supp. IV, 1969).

¹⁸⁷This approach is suggested and discussed in Water Quality Standards in Private Nuisance Actions, 79 Yale L. J. 102 (1969).

¹⁸⁸33 U.S.C. 466g(c)(3) (Supp. IV 1969).

These considerations suggest that a private nuisance action to abate activities which modify the natural flow of surface waters may be successful and may be of some utility in securing the flow of surface waters to the Park.

D. Regulatory Authority

1. Assertion of Existing Rights and Exercise of Existing Regulatory Authority

The effective assertion of the rights of the Park to receive the natural flow of surface waters under the doctrines of law discussed in Chapters IV and V above could serve to regulate activities of upstream landowners so as to prevent modification of the quality, quantity and timing of water flowing to the Park. Rights of the Park under the civil law rule,¹⁸⁹ the reserved rights doctrine,¹⁹⁰ and implied easements,¹⁹¹ might be established in litigation and activities which threatened to violate these rights might be enjoined. Existing and proposed activities which impair the water rights of the Park might be regulated or enjoined under the dominant federal navigation servitude,¹⁹² under the

¹⁸⁹Discussed, Chapter IV, text at n. 74-96, supra.

¹⁹⁰Discussed, Chapter V, text at n. 75-103, supra.

¹⁹¹Discussed, Chapter V, text at n. 145-61, supra.

¹⁹²Discussed, Chapter IV, text at n. 168-77, supra.

commerce power¹⁹³ and under the treaty power.¹⁹⁴ Such activities might also be enjoined under the law of trespass.¹⁹⁵ Nongovernmental parties might assert that such activities constitute private nuisances,¹⁹⁶ violate their rights under Spanish grants,¹⁹⁷ and constitute a violation of their constitutional right to a quality environment.¹⁹⁸

Present activities within the boundaries of the FCD could be regulated and limited so as to secure the natural water flow to the Park under the present permit and regulatory authority of the FCD.¹⁹⁹ Activities in the western portion of the watershed supplying the Park could be regulated and limited under the regulatory authority of the Trustees of the Internal Improvement Fund²⁰⁰ and under the permit and regulatory authority of the Corps of Engineers.²⁰¹ Denial of a permit to

¹⁹³Discussed, Chapter V, text at n. 47-54, supra.

¹⁹⁴Discussed, Chapter V, text at n. 55-74, supra.

¹⁹⁵Discussed, Chapter V, text at n. 162-69, supra.

¹⁹⁶Discussed, Chapter V, text at n. 170-88, supra.

¹⁹⁷Discussed, text at 133-44, supra.

¹⁹⁸Discussed, Chapter V, text at n. 104-32, supra.

¹⁹⁹Discussed, Chapter IV, text at n. 120-42, supra.

²⁰⁰Discussed, Chapter IV, text at n. 49-55, supra.

²⁰¹Discussed, Chapter IV, text at n. 202-42, supra.

conduct such activities would not constitute a taking without compensation under federal constitutional law,²⁰² nor under Florida constitutional law where there is a showing of a material adverse effect which threatens the public interest.²⁰³ Although some of the lands within the Park are exempted from condemnation proceedings by the federal government,²⁰⁴ activities conducted on those lands are not exempted from the operation of the doctrines or exercise of the regulatory authority discussed above.

The law of public nuisance is a potentially useful technique to regulate activities which violate the water rights of the Park and threaten the interests of the federal and state governments in the ecosystem of the Park. An action to abate such activities as public nuisances could make use of the doctrines discussed above as well as water quality standards and pollution control codes. The potential utility of such an action in securing the water flow to the Park warrants an examination of the doctrine of public nuisance in some detail.

A private nuisance is a civil wrong, based on a

²⁰²Zabel v. Tabb, 430 F.2d 199, 214-15 (5 Cir. 1970) (cert. denied, 91 S. Ct. 873 (1971)).

²⁰³Zabel v. Pinellas County Water and Navigation Control Authority, 171 So.2d 376, 379-80 (1965).

²⁰⁴Discussed, Chapter III, text at n. 27-32, supra.

disturbance of rights in the land of an individual and the remedy for such conduct lies in the individual suffering such a wrong.²⁰⁵ A public nuisance is a substantial and unreasonable interference with the rights of the community at large.²⁰⁶ A Florida statute provides for the punishment by fine of "all nuisances which tend to annoy the community or injure the health of the citizens in general. . . ." and the removal of "any nuisance which . . . is manifestly injurious to the public health and safety. . . ."²⁰⁷ Section 823.05 declares that "any building, booth, tent or place which tends to annoy the community or injure the health of the community . . ." is a nuisance and shall be abated or enjoined as provided under Section 60.05 which authorizes the state attorney, county solicitor, county prosecutor, or any citizen of the county in which the nuisance is operating to sue in the name of the state to enjoin the nuisance. The provision authorizing a private party to sue has been held to be constitutional and valid ²⁰⁸ where the plaintiff sues in the name of the state for abatement of a public nuisance. It is not necessary that the private party

²⁰⁵W. Prosser, Torts 594 (3rd ed. 1964).

²⁰⁶Id.

²⁰⁷Fla. Stat., § 823.01 (1969).

²⁰⁸Merry-Go-Round v. State ex rel. Jones, 186 So. 538 (1939); National Container Corp. v. State, 189 So. 4 (1939).

show a property interest which has been injured by the nuisance nor is it necessary that the plaintiff request and show the state's refusal to sue.²⁰⁹ The public nuisance statute is addressed to nuisances such as gambling and prostitution but the language of the cases suggests that other activities besides those named fall within the scope of the statute if they annoy or disturb the free use, possession or enjoyment of property in which the public has an interest²¹⁰ or result from a property owner's use of his lands causing a nuisance to the community.²¹¹

Activities which modify the natural flow of surface waters to the Park and to lands and coastal waters of the State of Florida threaten the ecological integrity of those regions and the organisms which they support.²¹² It may be argued that such activities which threaten the public interest in the ecological integrity

²⁰⁹Id.; Kathleen Citrus Land Co. v. City of Lakeland, 169 So. 356 (1936); Pompano Horne Club v. State, 111 So. 801 (1927); State ex rel Brown v. Sussman, 235 So.2d 46, 48 (1970) where court distinguishes cases in which plaintiffs sue individually to enjoin public nuisance and where they sue in name of state under statute. See generally, W. Prosser, Private Action for Public Nuisance, 52 Va. L. Rev. 997 (1966).

²¹⁰Jones v. Trawick, 75 So.2d 785 (1954); Palm Corp. v. Walters, 4 So.2d 696 (1942).

²¹¹Mercer v. Keynton, 163 So. 411 (1935).

²¹²Discussed in Chapter I.

of these lands and waters may be enjoined under the public nuisance statute. Additional force is lent to this argument by the water quality standards promulgated under the Federal Water Quality Act of 1965.²¹³

The Leopold Report notes the inadequacy of water quality standards for ecological purposes:

It is not possible to give unequivocal values that represent the maximum allowable increase in nutrients that would not disturb the ecosystem of the south Florida environment. It should be stated that the water quality standards adopted by the States, and especially Florida, are standards which are set up for different purposes than are considered here. Generally, water quality and effluent standards are governed by a desire to maintain water of such quality that it will not endanger public health. There is considerable difference between these standards and those which would be required to maintain an ecosystem of the particular character extant in southern Florida and the Everglades National Park. Even those standards applying to general fish and wildlife values may not be appropriate to the biologic system of this particular area.²¹⁴

Despite these difficulties, the standards promulgated under the Federal Water Quality Act and state and local pollution control codes may serve a useful purpose in public nuisance actions.

Three federal-state enforcement conferences under

²¹³33 U.S.C. § 466 (Supp. IV 1969).

²¹⁴U.S. Dept. of Interior, Environmental Impact of the Big Cypress Swamp Jetport, 73-74 (1969) [hereinafter cited as Leopold Report]. For a discussion of jurisdictional and enforcement problems under the Act, see statement of David Zwick, Hearings on Air and Water Pollution Before Subcomm. on Air and Water Pollution of Senate Comm. on Public Works, 91st Cong., 2d Sess., Water Pollution, Part 5, 1667-82. (1970).

the Federal Water Quality Act have been held at the request of the Governor of the State of Florida concerning pollution of Biscayne Bay.²¹⁵ Those conferences concluded and recommended that:

Additional waste discharges to Lower Biscayne Bay, including the Biscayne National Monument, and its tributaries shall be prohibited. This same prohibition shall apply to discharges to canals in Dade County which drain to the Everglades National Park. Removal of existing municipal and industrial discharges from these waters shall be accomplished as rapidly as possible but not later than January 1, 1974.²¹⁶

Such an approach, if enforced, could eliminate pollution flowing to the Park through canals which results from municipal and industrial discharges although it would not reduce nutrient, pesticide, and other forms of pollution resulting from agricultural and other activities which do not enter the canals through municipal or industrial effluents. This approach could be employed to require Monroe and Collier Counties to prevent pollution of the water flowing to the Park as well. These conferences found that pollution of these waters "endangers health and welfare of persons"²¹⁷ and such a finding might serve as the basis of a public nuisance action by a private party

²¹⁵October 22, 1970; February 18-19, 1971; July 2, 1971.

²¹⁶Conclusions and Recommendations No. 8, Oct. 22, 1970; Feb. 18-19, 1971.

²¹⁷Conclusion and Recommendation No. 1, Oct. 22, 1970.

against any new activities which threatened to cause pollution. Such an action by a private party or by the state against a source of pollution which existed at the time of the conferences would have to overcome the defense that the conferees determined that abatement by 1974 was reasonable and that an action to abate the nuisance before that time was premature. Plaintiffs might argue, depending upon the facts of the particular case, that 1974 was the latest date by which the nuisance could be abated but that the language of the recommendation requires abatement before that date where possible.

The Florida Air and Water Pollution Control Act²¹⁸ provides a statutory scheme for the control of pollution which may also be useful in a public nuisance action. Section 403.021 of the Act declares the legislative policy that pollution be abated, controlled and regulated so as to

. . . insure conservation of natural resources, to insure a continued safe environment, to insure purity of air and water, to insure domestic water supplies, to insure protection and preservation of the public health, safety, welfare, and economic well-being, to insure and provide for recreational and wildlife needs as the population increases and the economy expands, to insure a continuing growth of the economy and industrial development.

This broad statement of values and policy suggests that

²¹⁸Fla. Stat., §§ 403.011 et. seq. (1969).

the formulation of regulations and proscriptions under this Act represent a legislative determination of the reasonableness of activities which damage the environment. The broad definitions of waters and pollution contained in the Act suggest that it is applicable to any activities which impair the quality of the waters of the Everglades-Kissimmee-Okeechobee drainage basin.²¹⁹

Water quality standards and minimum conditions of all waters of the state are established by the Florida Air and Water Pollution Control Commission.²²⁰ Criteria of water pollution include turbidity, dissolved oxygen, temperature modification, concentration of dissolved solids, and modification of pH, among others, which result from discharges after mixing with receiving waters.²²¹

²¹⁹"Pollution" is defined as "the presence in the outdoor atmosphere or waters of the state of any one or more substances or contaminants in quantities which are or may be potentially harmful or injurious to human health or welfare, animal or plant life, or property, or unreasonably interfere with the enjoyment of life or property, including outdoor recreation." Fla. Stat. § 403.031(3) (1969). "Waters" are defined as including "but not limited to rivers, lakes, streams, springs, impoundments, and all other waters or bodies of water, including fresh, brackish, saline, tidal, surface or underground. Waters owned entirely by one person other than the state are included only in regard to possible discharges on other property or water." Fla. Stat. § 403.031(4) (1969). "Contaminant" is defined as "any substance which is harmful to plant, animal or human life." Fla. Stat. § 403.031(5) (1969).

²²⁰Rules of the Florida Department of Air and Water Pollution Control, Ch. 17-3, Fla. Admin. Code (1971).

²²¹Id. at Ch. 17-3.05(2)(d), (g), (h), (t).

These standards are potentially applicable to drainage operations and discharges into the canals of southern Florida. An examination of data collected at the site of such activities indicates that drainage and development operations in the Big Cypress Swamp and elsewhere have adverse effects which are cognizable and potentially controllable under these standards.²²²

The Commission is authorized to promulgate and change water quality standards so as to maintain environmental quality,²²³ and is authorized to establish a permit system whereby a permit may be required for the operation, construction or expansion of any installation that may be a source of water pollution.²²⁴ Drainage and development with concomitant discharge into canals leading to the Everglades National Park could be subject to such a permit system as activities which may be the source of water pollution. The Commission is given enforcement powers which include injunctive relief against violations

²²²See U.S. Dept. of Interior, Federal Water Quality Administration, A Synoptic Survey of Limnological Characteristics of the Big Cypress Swamp, Florida (1970) for a discussion of introduction of pesticides, organic matter, suspended sediments, iron, lead, and aluminum from drainage and canalization of GAC properties adjacent to Fakahatchee Strand, at 8, effects upon light penetration, turbidity, water temperature, hardness and alkalinity at 8-9, effect upon pH at 39, and effect upon color at 40.

²²³Fla. Stat. § 403.061 (1969).

²²⁴Fla. Stat. § 403.061 (16) (1969).

of the Act or rules and regulations. Injunctive relief is also available if the director of the Commission finds that:

. . . a generalized condition of air or water pollution exists and that it creates an emergency requiring immediate action to protect human health or safety . . . or to prevent harm to property or to animal, plant, or aquatic life.²²⁵

The Commission could promulgate standards which would serve to protect the water quality of the Everglades National Park and is now empowered to seek to restrain many of the present activities which are damaging state and federal property and animal, plant and aquatic life without promulgation of new standards if the director finds that such activities create an emergency as defined by the Act. The effects of drainage and development discussed in Chapter I would seem to support such a finding.

Section 403.182 authorizes local pollution control programs²²⁶ which are approved by the Commission

²²⁵Fla. Stat. § 403.131 (1969), as amended by Fla. Laws, Ch. 70-139, Fla. Stat. § 403.131 (Supp. 1970).

²²⁶The Dade County Code contains statutory definitions of nuisance and water pollution which are potentially applicable to activities which impair the water quality of water flowing to the Park. Ch. 24-3(14) - Nuisance causing or contributing to . . . (b) The discharge into any of the waters of this county of any organic or inorganic matter or deleterious substance or chemical compounds, or any effluent containing the foregoing, in such quantities, proportions or accumulations as to be detectable at any point beyond the property limits of the premises occupied or used by the person responsible for the source thereof, so as to

but authorizes the Commission to administer the state code and rules and regulations in cases where the local pollution control program is deemed inadequate after a hearing on the matter and after the local jurisdiction has failed to correct the inadequacies. This provision could be employed to assume control over drainage and development and discharge activities in any or all of the counties and municipalities within the watershed supplying the Park.

In addition to the remedies afforded by the state and local pollution control codes, the state or local government could bring an action to abate, as public nuisances, activities which result in pollution of the water flowing to the Park and state lands and

interfere with the health, repose or safety of any considerable number of persons or the public, or to cause severe annoyance or discomfort, or which tends to lessen normal food and water intake, or produces symptoms of nausea, or is offensive or objectionable to normal persons because of inherent chemical or physical properties, or causes injury or damage to real property, personal property, human, plant or animal life of any kind, or which interferes with normal conduct of business, or is detrimental or harmful to the health, comfort, living conditions, welfare and safety of the inhabitants of this county. (c) Any violation of provisions of this chapter which becomes detrimental to health or threatens danger to the safety of persons or property, or gives offense to, is injurious to, or endangers the public health and welfare, or prevents the reasonable and comfortable use and enjoyment of property by any considerable number of the public. Ch. (31) Water Pollution shall mean the introduction in any surface or underground water, or tidal salt water, of any organic or inorganic matter or deleterious substance in such quantities, proportions or accumulations which are injurious to human plant, animal, fish and other aquatic life, or property, or which unreasonably interferes with the comfortable enjoyment of life or property, or the conduct of business.

waters. Absent such governmental action, an individual could bring an action for the state to abate the alleged nuisance based upon the common law and the public nuisance statutes discussed above and relying in part upon the violation of water quality standards and definitions set out in the code as evidence of the nuisance. The federal government could also bring such a public nuisance action.

2. Zoning

New legislation and promulgation of land use regulations such as zoning may be necessary if attempts to regulate activities under the doctrines and techniques discussed in (1) above are not successful. Additional legislation may be required to permit the federal government to exercise its regulatory authority under the commerce and navigation powers. The courts may find that the Park does not have rights to the natural flow of surface waters or they might find that such rights exist but must yield to other interests, absent an express directive from the local, state, or federal legislature setting priorities of use. Although the analysis of the law relating to the water rights of the Park has suggested that this result is unlikely, the need for coordinated and comprehensive planning for use of the lands and waters of the Everglades-Kissimee-Okeechobee drainage basin suggests that a general zoning type of regulation is advisable in addition to the

approach suggested in (1) above.²²⁷ It should be noted, however, that a rational evaluation of the need for such regulation and the most effective means of achieving the desired goal cannot be undertaken without first exploring and determining the effectiveness and inadequacies of the approach described in (1) above.

An examination of the law of zoning, as a representative form of the land use regulations to be considered, is instructive in this context. The law sustains a restriction of the use of land if the restriction is not arbitrary and is based upon the reasonable exercise of the police powers to secure or enhance the public health, convenience, safety or general welfare. In the leading case of Village of Euclid. v. Ambler Realty Co.²²⁸ the United States Supreme Court ruled:

²²⁷The South Florida Everglades Planning Council, composed of representatives of Dade, Collier and Monroe Counties has attempted to plan and regulate on a regional basis but has been rendered ineffective by jurisdictional and other political disputes among its members and by its basic lack of authority to implement its decisions. Proposals for an Everglades-Kissimee-Okeechobee Drainage Basin Commission are currently receiving attention. Such a Commission would be similar to the San Francisco Bay Conservation and Development Commission. See, House Comm. on Government Operations, Protecting America's Estuaries: The San Francisco Bay and Delta, H. R. Rep. No. 1433, 91st Cong., 2d Sess. (1970).

²²⁸272 U.S. 375, 47 S. Ct. 114, 71 L. Ed. 303 (1926).

. . . It must be said before the ordinance can be declared unconstitutional, that such provisions are clearly arbitrary and unreasonable, having no substantial relation to the public health, safety, morals, or general welfare.²²⁹

The Court compared the prohibited uses to nuisances and limited "property rights" so as to avoid the creation of external impacts or harms to either property owners or the public. The reasonableness and validity of a regulation does not depend upon the impact of a regulation on the market value of the land to which it is applied. Such a factor is constitutionally irrelevant as long as the regulation is not arbitrary. This principle was clearly established in Hadacheck v. Sebastian²³⁰ involving an owner who had purchased the land in question because it contained a deposit of very valuable clay for use in brick making. The landowner had already erected the brick factory on the site and was engaged in brick manufacturing before the challenged ordinance was passed prohibiting brick manufacturing in that area. The property was worth \$800,000 for brick manufacturing but only \$60,000 for any other use. The Supreme Court held the ordinance valid and denied the landowner compensation for a "taking" despite these economic factors. The Court stated:

²²⁹71 L. Ed. 303, 304 (1926).

²³⁰239 U.S. 394, 36 S. Ct. 143, 60 L. Ed. 348 (1915).

It is to be remembered that we are dealing with one of the most essential powers of government, one that is the least limitable. It may, indeed, seem harsh in its exercise, usually is on some individual, but the imperative necessity for its existence precludes any limitations on it when not exerted arbitrarily.²³¹

The exercise of the police powers of the federal, state, or local governments to secure the public health and welfare against the threats from unregulated drainage and development activities would seem to be valid under this test.

Florida cases are in accord with this view that regulation of the use of land is valid when not unreasonable or arbitrary in its application. The regulation is reasonable and therefore valid if it bears a substantial relation to the public health, safety, morals, or general welfare.²³² A landowner does not have an absolute right to devote his lands to any purpose he pleases and a regulation will be upheld as a valid exercise of the police power if the restriction on land use is necessary and reasonably related to the public welfare.²³³

²³¹239 U.S. 394, 410 (1915).

²³²Miami Beach v. 8701 Collins Ave., Inc., 77 So.2d 428 (1954).

²³³State ex rel Helseth v. DuBose, 99 Fla. 812, 128 So. 4 (1930); Forde v. City of Miami Beach, 146 Fla. 676, 1 So.2d 642 (1941); Corneal v. State Plan Board, 95 So.2d 1 (1957); Kass v. Lewin, 104 So.2d 572 (1958).

Aesthetics may be considered as one criterion of the general welfare²³⁴ and the welfare of the entire community must be considered.²³⁵ A regulation or restriction upon the use of land is invalid, as a taking of property without compensation, if it completely deprives an owner of any beneficial use of his property by precluding the only use to which it is reasonably adapted.²³⁶ In such a case the owner has the burden of showing that the regulation has the effect of completely depriving him of the beneficial use of his property by precluding all uses, or the only use to which it is reasonably adapted.²³⁷ It is not a confiscatory regulation for which compensation must be paid if the owner is precluded from putting his land to what he considers its best use if there are, nevertheless, other beneficial uses to which the land can be put.²³⁸ As a general rule, hardship, limitation of use, or diminution of property values alone will not render the regulation or restriction void,²³⁹ and this is true

²³⁴Miami Beach v. Ocean & Inland Co., 147 Fla. 480, 3 So.2d 364 (1941).

²³⁵Fogg v. South Miami, 183 So.2d 219 (3rd D.C.A. 1966).

²³⁶Ocean Villas Apartments, Inc. v. Fort Lauderdale, 70 So.2d 901 (1954).

²³⁷Neubauer v. Surfside, 181 So.2d 707 (3rd D.C.A. 1966).

²³⁸Miami v. Walker, 169 So.2d 842 (1964).

²³⁹Waring v. Peterson, 137 So.2d 268 (2d D.C.A. 1962); Neubauer v. Surfside, 181 So.2d 707 (3rd D.C.A. 1966).

even though the regulation may result in serious depreciation of the value of property affected by it. The landowner cannot invalidate the regulation simply because he is precluded from using the land in the manner which is most economically advantageous to him.²⁴⁰

Any attempt to impose restrictions upon drainage, development or other activities within the watershed supplying the Park should be based upon the premise that such activities are contrary to the public interest and unreasonable.²⁴¹ To the extent that they were based upon a finding that such activities threatened the public health and welfare, the restrictions on land use and activities should not require compensation to the affected landowners and would, in fact, be a means of preventing a "taking" of the water rights of the Park and the values of the southern Florida ecosystem in which the entire public has an interest.

3. Acquisition of Lands and Interests Therein

Governmental acquisition of the lands in the watershed supplying the Park may be an effective means of regulating land use if the techniques described in (1) and (2) above fail to serve this purpose.

²⁴⁰Miami v. Zorovich, 166 So.2d 31 (3rd D.C.A. 1967).

²⁴¹See discussion of the effects of such activities, Chapter I.

Although specific legislation may be the most certain and expedient means of acquiring lands in this area, local, state and federal governments are presently authorized to acquire at least some of the lands and interests therein.

It is important to the maintenance of the ecology of the Park, including endangered species, migratory birds, and marine organisms, that the lands in the western portion of the watershed supplying the Park remain in their natural state.²⁴² Funds for acquisition of these lands would be available from the Land and Water Conservation Fund under the Protection of Eagles and Endangered Species Act²⁴³ which authorizes the Secretary of Interior "to acquire by purchase, donation, or otherwise, lands or interests therein."²⁴⁴ Funds would also be available from the Migratory Bird Conservation Fund under the Migratory Bird Conservation Act²⁴⁵ which provides for the purchase or rental by the

²⁴²Discussed in Chapter I and Chapter V, text at n. 55-74 supra.

²⁴³16 U.S.C.A. § 668bb (Supp. IV 1969).

²⁴⁴16 U.S.C.A. § 668bb(b) (Supp. IV 1969).

²⁴⁵As amended, 16 U.S.C. §§ 715, et. seq. (1964).

Secretary of Interior of lands and/or waters approved by the Migratory Bird Conservation Commission for use as sanctuaries for migratory birds.²⁴⁶ Both these statutes authorize acquisition without further legislation. Authorization for acquisition of lands is also contained in the Fish and Wildlife Act of 1956.²⁴⁷ The Fish and Wildlife Coordination Act²⁴⁸ authorizes federal agencies involved in water projects to acquire lands for conservation of wildlife resources.²⁴⁹ The Secretary of the Army could acquire lands for such purposes in connection with the Central and Southern Florida Flood Control Project. The authorization in these statutes to acquire lands and interests therein includes the power to acquire by condemnation.²⁵⁰ Florida statutes authorize all

²⁴⁶16 U.S.C. § 715(2), (d) (1964).

²⁴⁷16 U.S.C. § 742 (1964).

²⁴⁸16 U.S.C. §§ 661-666 (1964).

²⁴⁹16 U.S.C. § 662(c), (g) (1964).

²⁵⁰16 U.S.C.A. § 257 (Supp. IV 1969) authorizes an officer of the United States to acquire by condemnation "(i)n every case in which (the officer . . . has been, or hereafter shall be authorized to procure real estate for . . . public use." This provision has been consistently construed to authorize acquisition where purchase is authorized, e.g., *Hanson Lumber Co. v. United States*, 261 U.S. 581, 43 S. Ct. 442, 67 L. Ed. 809 (1923); *United States v. 2.74 Acres*, 32 F. Supp. 55 (D. Ill. 1940); *United States v. Kennedy*, 278 F.2d 121 (9th Cir. 1960); *Swan Lake Hunting Club v. United States*, 381 F.2d 238 (5th Cir. 1967).

counties to exercise the power of eminent domain to acquire lands where such acquisition is necessary for the public welfare.²⁵¹ Acquisition of the wetlands in the watershed supplying the Park which sustain not only the Park but fish and wildlife and municipal water supplies as well, would seem to satisfy this requirement of public necessity.

A large portion of the western watershed supplying the Park is undrained and undeveloped. Federal and state legislation providing for the preservation of wilderness areas is potentially applicable to these lands. The federal Wilderness Act of 1964²⁵² requires legislation by Congress upon recommendation of the President before lands can be acquired for the establishment of a wilderness area. The State Wilderness Systems Act²⁵³ provides for acquisition of lands for establishment of a wilderness area. The Trustees of the Internal Improvement Fund are authorized to acquire title to lands by any lawful means other than through the use of the power of eminent domain.²⁵⁴

²⁵¹Fla. Stat. § 127.01 (1969).

²⁵²16 U.S.C. §§ 1131-1136 (1964).

²⁵³Fla. Laws, Ch. 70-355 (1970).

²⁵⁴Id. § 7.

Acquisition of the fee simple absolute title to lands is expensive and acquisition of a lesser interest in the lands of the southern Florida watershed should be considered. Acquisition by purchase or condemnation of flowage easements²⁵⁵ and other interests may serve the desired purpose at less cost. Another option short of acquisition of fee title which is available to the federal government is suggested by the Water Bank Act of 1970.²⁵⁶ That Act authorizes agreements between the Secretary of Agriculture and owners or operators of wetlands whereby such persons agree not to drain, fill or otherwise modify or destroy the wetland character of their lands in return for annual payment by the Secretary of Agriculture for the obligations undertaken pursuant to the agreements. These and other possibilities should be thoroughly explored before acquisition of fee title is undertaken. Any program of acquisition of the title to lands in the southern Florida watershed should be undertaken with regard to the hydrobiological interdependence of the entire region. Acquisition of anything less than the entire watershed will fail to secure the

²⁵⁵Such acquisition should be undertaken only when these are not found to have been created by implication as discussed in text at n. 145-61 supra.

²⁵⁶Pub. L. 91-559, 84 Stat. 1468.

integrity of the ecosystem unless it is combined with regulations which restrict activities and the use of lands which impinge on the system.

E. Extraordinary Remedies Which May Serve to Determine and Establish the Water Rights of Everglades National Park

The failure of the federal government to explore the potential effectiveness of the doctrines of law discussed in the preceding chapters has been a major problem underlying all the controversies regarding the water rights of Everglades National Park. The two techniques discussed below²⁵⁷ may serve to provide interested citizens with the means to overcome governmental inaction and gain a determination of the water rights of the Park.

1. Petition to the President of the United States

The Constitution states that the President of the United States

. . . may require the opinion, in writing, of the principal officer in each of the executive departments, upon any subject relating to the duties of their respective offices. . . .²⁵⁸

The failure of the Secretary of Interior, the Secretary of the Army, and the Attorney General to attempt to implement the doctrines discussed in preceding sections

²⁵⁷This writer is grateful to Joseph Z. Fleming, Esq. for suggesting these techniques.

²⁵⁸U.S. Const., art. 2 § 2, cl. 1.

of Chapters IV and V relates to their duties as principal officers of executive departments. A citizen could petition the President under his first amendment right to petition the government for a redress of grievances, demanding that the President require an explanation from such officers of their default in protecting and establishing the water rights of the Everglades National Park.

Whether or not such a petition were fully effective in obtaining opinions from the various executive offices involved in the water rights problems of the Park, it would focus political pressure on the President and would charge him with responsibility for the failure of the federal government to secure the public interest in the Park. Such a result would serve to clarify responsibility and stimulate constructive responses from the federal agencies involved.

2. The McCarran Act

The McCarran Act²⁵⁹ states:

(a) Consent is given to join the United States as a defendant in any suit (1) for the adjudication of rights to the use of water of a river system or other source, or (2) for the administration of such rights, where it appears that the United States is the owner of or is in the process of acquiring water rights by appropriation under State law, by purchase, by exchange, or otherwise, and the United States is a necessary party to such suit. The United States, when a party to any such

²⁵⁹43 U.S.C. § 666 (1964).

suit, shall (1) be deemed to have waived any right to plead that the State laws are inapplicable or that the United States is not amenable thereto by reason of its sovereignty, and (2) shall be subject to the judgments, orders, and decrees of the court having jurisdiction, and may obtain review thereof, in the same manner and to the same extent as a private individual under like circumstances: Provided, that no judgment for costs shall be entered against the United States in any such suit.

This provision gives consent to join the United States as a party defendant in cases where a general settlement of water rights of many users is sought.²⁶⁰ This provision is not limited in geographical application to western states in which an administrative or appropriation system of water law prevails but is generally applicable and does not depend upon the existence in a particular state of an administrative procedure for determining water rights.²⁶¹ All laws, both state and federal, are to be considered insofar as they are relevant.²⁶²

The recent decision of the United States Supreme Court in United States v. District Court In and For the County of Eagle²⁶³ affirmed the decision of the Colorado

²⁶⁰In re Green River Drainage Area, 147 F. Supp. 127 (D.C. Utah 1956).

²⁶¹Rank v. Krug, 142 F. Supp. 1 (D.C. Cal. 1956).

²⁶²State of Nevada ex rel. Shamberger v. U.S., 165 F. Supp. 600 (D.C. Nev. 1958).

²⁶³____ U.S. ____, 91 S. Ct. 170, 28 L. Ed. 278 (1971).

Supreme Court that the Act vests state courts with jurisdiction to adjudicate rights of the United States with respect to its reserved water rights. The opinion of Mr. Justice Douglas suggests that the Act is potentially applicable to the disputes concerning the water rights of the Everglades National Park. Mr. Justice Douglas stated that the provision for adjudication of rights to the use of water of a river system or other source "would seem to be all-inclusive"²⁶⁴ and that the water rights of the United States which are subject to adjudication under the Act include not only appropriated rights but riparian rights and reserved rights as well.²⁶⁵ The Court reached a similar conclusion in the companion case of United States v. District Court In and For Water Division No. 5²⁶⁶ involving the adjudication of reserved water rights for federal enclaves which included national forests and national recreation areas.

The language of the Court in these cases suggests that the southern Florida watershed supplying the Park could be treated as a river system or other source of water under the Act and that the water rights of the Park

²⁶⁴Id. at 281.

²⁶⁵Id. at 282.

²⁶⁶ ____ U.S. ____, 91 S. Ct. 170, 28 L. Ed. 2d 284 (1971).

and competing users could be adjudicated. Such an adjudication would serve to determine whether the Park had water rights under the theories discussed in Chapters IV and V and to establish those rights where they were found to exist.

The effectiveness and availability of the McCarran Act to determine and establish the water rights of the Park may be limited by several legal and practical difficulties. The Act operates to give consent of the United States to be joined only in cases to determine the water rights of all water users in the watershed and all such users must be before the court for determination of their respective rights.²⁶⁷ An adjudication of the rights of all water users in the watershed supplying the Park would be a herculean task, although it might be possible to serve such persons by publication with notice of the adjudication and gain an adjudication of only those who claim rights which were adverse to the Park and thereby limit the number of parties. A second difficulty results from the fact that the Act has been employed in the past to determine federal water rights as they relate to the primary dispute among private water users. The

²⁶⁷Dugan v. Rank, 372 U.S. 609, 83 S. Ct. 999, 10 L. Ed. 2d 15 (1963); Hurley v. Abbott, 259 F. Supp. 669 (D.C. Arizona 1966).

Act would be used in the present context to establish rights of the federal government to water for the Park and the United States would be a primary claimant. The provisions of the Act may not be available for this shift in emphasis and thrust. In any event, it would seem that a suit for the adjudication of rights must already be pending before the United States can be joined.²⁶⁸ The actions concerning drainage and development of the Gum Slough area in the Big Cypress Swamp²⁶⁹ may satisfy this requirement and permit enlargement of the proceedings to which the United States was originally a party.²⁷⁰ Perhaps the most significant difficulty to be overcome in connection with a contemplated action under the McCarran Act is the very real possibility that the executive branch of the federal government would fail to present its case adequately. Establishment of water rights for the Park would require vigorous and talented presentation of carefully researched and planned arguments based upon the doctrines discussed in the previous chapters and others. The discussion in the following chapter suggests that the executive branch of the federal

²⁶⁸Rank v. Krug, 142 F. Supp. 1 (D.C. Cal. 1956).

²⁶⁹Discussed in Chapter VI.

²⁷⁰Hurley v. Abbott, 259 F. Supp. 669 (D.C. Arizona 1966).

government has not demonstrated the ability or inclination to successfully undertake such efforts.

CHAPTER VI

SOME SPECIFIC CONTROVERSIES

A. Water Supply from the Central and Southern Florida Flood Control District

The eastern portion of the Park receives water from the Central and Southern Florida Flood Control District (FCD). The history of drainage, development and flood damage which led to the formation of the FCD and its effect upon the Park and the overall ecosystem of southern Florida have been discussed in the preceding chapters.¹ The preceding discussion has also suggested several statutory and common law doctrines under which state officials of the FCD and the Corps of Engineers are authorized to allocate water supplies and prevent pollution.² These authorities have not, however, been utilized to provide the Park with water of what it considers sufficient quantity and acceptable quality.

Marine notes that "If there is a god of the

¹See especially, Chapter IV, text at n. 120-42, supra.

²Id.; Chapter IV, text at n. 202-42, supra.

Engineers then his idea of Chartres is probably a dam in the Grand Canyon."³ The FCD project must run a close second. Figure VI-1 is a map of this complex project which will cost an estimated \$492.3 million when completed, of which the federal share will be an estimated \$343 million. Federal funds already appropriated for the project through fiscal year 1970 total \$179.3 million.⁴ With the completion of Levee 29 along the northern boundary of the Park and closure of control gates in 1962, this natural flow of surface waters to the eastern portion of the Park was blocked and subject to artificial control by the Corps of Engineers and FCD officials of the State of Florida.

Recent legislation⁵ has resolved a long-standing dispute between the Corps of Engineers and the National Park Service regarding the responsibility of the Corps to provide the Park with a minimum annual supply of water from the FCD project. An additional \$25 million was authorized by the Act for prosecution of the FCD project of which up to \$5 million was specifically earmarked for accelerated construction of specified canals, pumping stations and such other works "as the

³G. Marine, *America the Raped*, 163 (1969).

⁴Sen. Rep. No. 91-895, 91st Cong., 2d Sess., 16 (1970).

⁵Pub. L. 91-282, 91st Cong., 2d Sess. (1970), 84 Stat. 310.

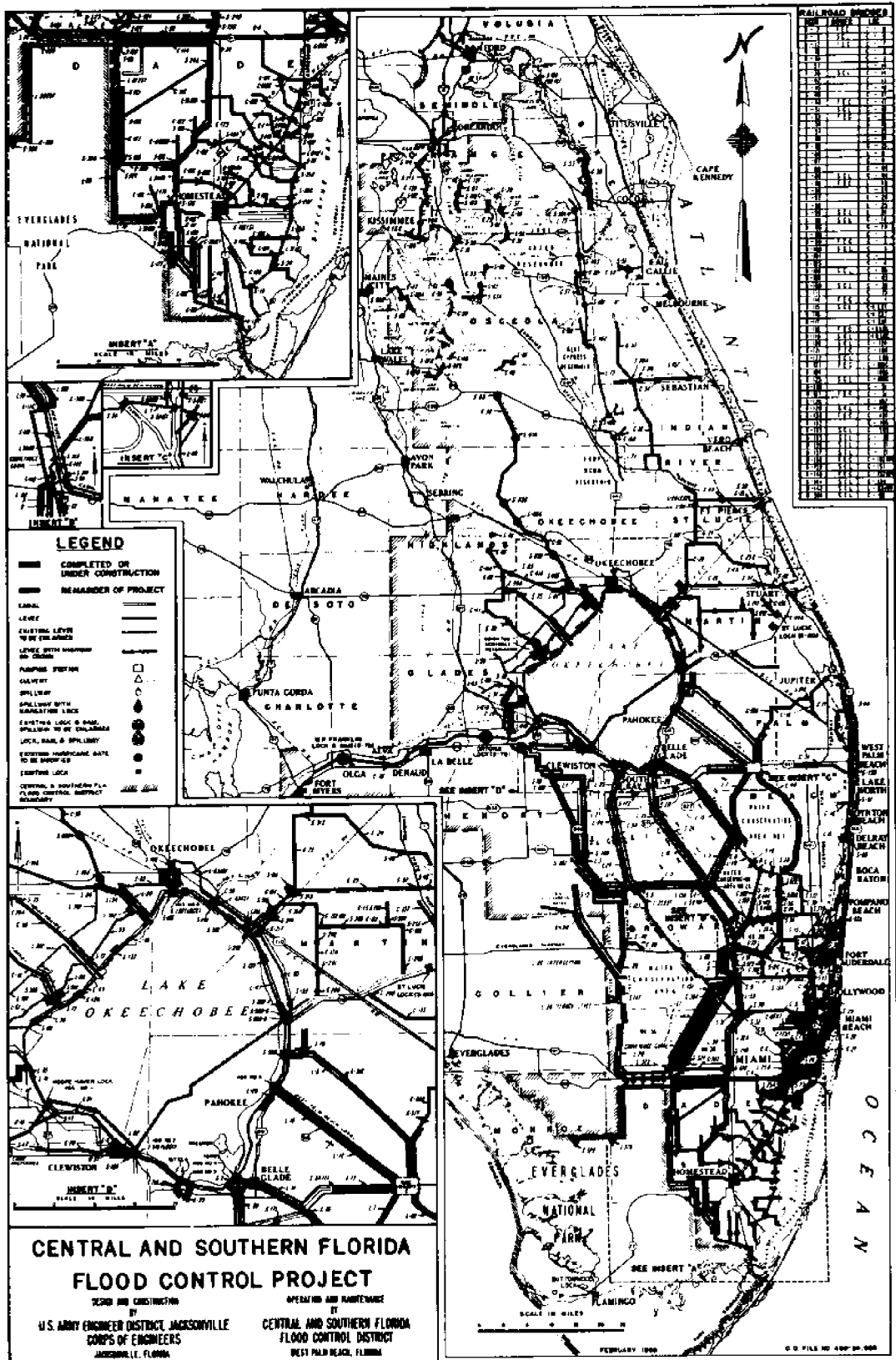


Fig. VI-1

Director of the National Park Service and the Chief of Engineers agree are necessary to meet the water requirements of the Everglades National Park."⁶ This language makes it clear that the Corps has a responsibility to meet the water requirements of the Park. This responsibility is further defined by the provision that:

. . . as soon as practicable and in any event upon completion of the works specified in the preceding proviso, delivery of water from the central and southern Florida project to the Everglades National Park shall be not less than 315,000 acre-feet annually, prorated according to the monthly schedule set forth in the National Park Service letter of October 20, 1967, to the Office of the Chief of Engineers, or 16.5 per centum of total deliveries from the project for all purposes including the park, whichever is less.⁷

The 315,000 acre-feet which the Corps is required to deliver to the Park is designed to simulate the post-drainage annual flows of 260,000 acre-feet into Shark River Slough, 18,000 acre-feet into Taylor Slough and 37,000 acre-feet into the eastern panhandle of the Park. This formula is relatively simple to administer and implement on a monthly schedule.

The Report of the Senate Committee on Public Works explains this provision as an attempt to remove any uncertainty regarding the amount of water the project

⁶Id. § 2.

⁷Id. An acre-foot is the amount of water which would cover one acre with one foot of water. One acre-foot of water equals approximately 327,000 gallons.

is required to deliver to the Park by, in effect, amending the project authorization and states:

In brief, it is the purpose of the committee amendment to secure as promptly and regularly as possible delivery of water to the Everglades National Park at the rate of not less than 315,000 acre-feet annually, the minimum the Park Service says is needed for preservation of the park and the objective set forth in the Corps of Engineers report. In the event of shortage, below the present normal capability of the project, the park would share that shortage and receive instead 16.5 percent of total water deliveries from the . . . project. The committee formula guarantees to the park 315,000 acre-feet or 16.5 percent of water deliveries, whichever is less.⁸

The problem with the percentage formula is that it does not, by its terms guarantee any specific amount of water to the Park since the language of the provision does not indicate the basis upon which to compute the total water deliveries of which the Park is to get 16.5 per cent. The amount of water which the Park will receive will depend upon when the percentage formula is to be applied, the meaning given to "total deliveries from the project," and the period of time over which such total is calculated. The Report of the Senate Committee on Public Works explains the formula in the following language:

The formula works as follows: 315,000
acre-feet is 16.5 percentum of 1,905,000
acre-feet, which is the present normal capability

⁸Sen. Rep. No. 91-895, 91st Cong., 2d Sess., 17 (1970).

of the project, the park will receive its 315,000 minimum requirement. In times of drought, if total deliveries from the project fall below an annual rate of 1,905,000 acre-feet the park guarantee of 315,000 acre-feet will be proportionately reduced.⁹

The Report refers to the monthly schedule of delivery which would prevail under ordinary circumstances and states:

Under the committee amendment, the above amounts could be proportionately reduced whenever total deliveries for the preceding 12 months amount to less than 1,905,000 acre-feet.¹⁰

This language explains the operation of the percentage formula by indicating the time when the formula is to be applied and by indicating the period over which the total is to be calculated. Such explanatory language is not found in the Act. The operation of this provision is the subject of discussion between the Corps and the Park Service at the time of this writing. The summer drought has necessitated reduced water deliveries to the Park and neither the Corps nor the Park Service is confident of how to compute the proper delivery to the Park.¹¹ This uncertainty should be resolved in a subsequent appropriations bill or by amendment and the effectiveness of the Committee's suggested application of the percentage formula should be reviewed at that time.

⁹Id. at 18, 19 (emphasis added).

¹⁰Id. at 21 (emphasis added).

¹¹personal communication from Frank Nix, Everglades National Park Hydrologist, July 7, 1971.

Although the details of the operation of the legislative formula remain to be worked out, the principle that the Park is entitled to a guaranteed amount or percentage of water from the FCD project, regardless of increased demands from new water users, is clearly established. The responsibility of the Corps of Engineers to deliver that water is also clear. The Congressional declaration of the responsibility and authority of the Corps was not based upon new law or a radical approach to existing applicable law. The provision of the Act is based upon the express language of the legislation authorizing the project which included water supply to the Park as a federal project purpose.¹²

An examination of the history and relative merits of the dispute between the Park Service and the Corps of Engineers does not appear to be warranted in this study since the Corps is presently exercising its authority to deliver water to the Park pursuant to the Act. It should suffice to note that this issue was the subject of numerous communications between the two

¹²E.g. H. R. Doc. No. 643, 80th Cong., 2d Sess., 4, 57, passim (1948), incorporated by reference in Pub. L. 858, 62 Stat. 1171, which authorized the FCD project; H. R. Doc. No. 369, 90th Cong., 2d Sess., xiv-xvi, 81-82, 87, passim (1968), incorporated by reference in Pub. L. 90-483, 82 Stat. 731 authorizing modifications and additional funds for the project.

executive agencies and that an opinion of the Attorney General was requested and never issued.¹³ A petition to the President of the United States¹⁴ might have served to obtain the opinion of the Attorney General regarding the responsibility and authority of the Corps to deliver water to the Park.

The guaranteed delivery of water from the FCD project does not solve all the controversies regarding the Park and the project. The location and operation of presently existing and proposed project works continues to be the subject of controversy. Both the Fish and Wildlife Coordination Act¹⁵ and the National Environmental Policy Act of 1969¹⁶ are applicable to such controversies.¹⁷ The Corps of Engineers has not

¹³E.g. letter from Secretary of Interior to General Casidy, Corps of Engineers, June 12, 1968, letter from Secretary of Interior to Attorney General, November 30, 1968; letter from Robert E. Jordan, III, Corps of Engineers to Attorney General, January 8, 1969; letter from Secretary of Interior to Attorney General, December 24, 1969; letter from Robert E. Jordan, III, Corps of Engineers to Thomas Kauper, Deputy Ass't. Attorney General, January 30, 1970. See also, Hearings on Water Supply, The Environmental and Jet Airport Problems of Everglades National Park, Before the Sen. Comm. on Interior and Insular Affairs, 91st Cong., 1st Sess., 32-42, passim (1969).

¹⁴Discussed, Chapter V, text at n. 258 supra.

¹⁵16 U.S.C. § 662.

¹⁶42 U.S.C.A. 4331-47.

¹⁷Discussed, Chapter V, text at n. 35-45 supra.

submitted an environmental impact statement in connection with its construction and operation of the FCD project as required by section 102 of the National Environmental Policy Act and administrative directive pursuant to that Act.¹⁸ It may be argued that any further construction or other activities which threaten the ecology of the Park may be enjoined in an action by citizens until the Corps submits the environmental impact statement and complies with other requirements of the National Environmental Policy Act.¹⁹ Threats to the ecology of the Park resulting from the operation of the FCD project by the Corps of Engineers and FCD officials of the State of Florida may be state action which violates the constitutional right to a quality environment.²⁰ These and other doctrines of law discussed in preceding chapters may be invoked to secure the ecology of the Park against unreasonable threats from the FCD project.

¹⁸Executive Order 11514 of March 5, 1970 (35 F.R. 4247; Council on Environmental Quality, Interim Guidelines, April 30, 1970 (35 F.R. 7390; Council on Environmental Quality, Guidelines for Federal Agencies under the National Environmental Policy Act, April 23, 1971.

¹⁹C.f. Environmental Defense Fund, Inc. v. Corps. of Engineers, 325 F. Supp. 749 (E.D. Ark. 1971) in which the corps was enjoined from proceeding with construction of a dam until it complied with the procedural requirements of the Act by filing an impact statement.

²⁰Discussed, Chapter V, text at n. 104-32 supra.

B. Proposals to Recycle Treated Wastewater to Supplement the Water Supply to Everglades National Park

The Corps of Engineers estimates that completion of the authorized works of the FCD project will permit storage of sufficient water in Lake Okeechobee and the Conservation Areas to satisfy the water needs of central and southern Florida until the year 2000.²¹ This prediction is disputed and it is generally recognized that additional means of providing fresh-water for municipal and industrial as well as Park purposes will be desirable if not necessary before that date. The Senate Committee on Public Works recognized this need and adopted a resolution directing the Corps of Engineers to investigate and report to the Congress on alternative means of providing additional water to supplement existing supplies.²²

The potentially reusable fresh-water in municipal and industrial wastewater which is now discharged to the ocean has been the subject of increased attention in this context.²³

A recent study notes that municipal sewage contains

²¹H. R. Doc. No. 369, 90th Cong., 2d Sess., 88 (1968).

²²Sen. Rep. No. 91-895, 91st Cong., 2d Sess., 25 (1970).

²³E.g. Peter Paul Baljet, Reuse of Wastewater as an Additional Source of Water Supply to the Everglades National Park, A Thesis, Univ. of Miami (1969).

approximately 90 percent reclaimable fresh-water and that the sewage of Miami is a potential source of 150 million gallons of fresh-water per day totalling 168,000 acre-feet per year.²⁴ The study evaluates the effects of the discharge of this water into the Park after secondary treatment. The results of this study suggest that proposals to discharge wastewater into the Everglades ecosystem may generate controversies if such proposals involve the discharge of secondarily-treated wastewater into or adjacent to the Park. The study notes that conventional secondary treatment of wastewater does not remove nutrients which cause eutrophication of viruses which may pose a significant threat to human and animal health. It concludes that existing information is inadequate to allow the discharge of anything but nutrient and pathogen-free water into the Everglades ecosystem although tertiary treatment would solve many of the problems and uncertainties associated with such proposals.

The discharge of wastewater into the Park would require the permission of the Secretary of Interior.²⁵

²⁴Effects of the Discharge of Secondarily-Treated Sewage Effluent into the Everglades Watershed, a study by the class in Saltwater Pollution Technology under the direction of Dr. Durbin Tabb, Rosenstiel School of Marine and Atmospheric Sciences, Univ. of Miami (1971) (to be published).

²⁵16 U.S.C. § 410n (1964). Discussed, Chapter V, text at n. 168-69 supra.

The Park could also object to such a discharge whether directly into the Park or into adjacent lands, as an interference with the natural quality and quantity of flow under the civil law rule of surface waters.²⁶ Private landowners could object on similar grounds to the flow of such waters across their lands and the doctrines of private nuisance,²⁷ public nuisance and water quality standards²⁸ might be applied in such a controversy. It might also be argued that discharge of wastewater which threatened the ecological integrity of the Park was state action violating the constitutional right to a quality environment.²⁹

It is interesting to note that whatever the outcome of the specific disputes involved with such a proposal, a fundamental decision will have been made, and gone unnoticed, to continue to develop and facilitate the growth of southern Florida. This acceptance of the inevitability of growth and development³⁰ is reflected in all the proposals to provide an additional source of water whether by recycling

²⁶Discussed, Chapter IV, text at n. 74-96 supra.

²⁷Discussed, Chapter V, text at n. 170-88 supra.

²⁸Discussed, Chapter V, text at n. 205-26 supra.

²⁹Discussed, Chapter V, text at n. 104-32 supra.

³⁰Discussed, Chapter II, text at n. 10 supra.

wastewater, desalinization of salt-water or otherwise. It should not be accepted without challenge. The development of techniques to provide additional water supplies will, in effect, permit the growth and development to take place.

C. The Big Cypress Swamp Jetport

On January 15, 1970 President Nixon announced that:

Airport facilities already constructed on the site near the Everglades National Park will be used as temporary training facilities only. The training operation itself will proceed under exacting environmental safeguards, and will be shut down as soon as an acceptable alternate site is available.

The decision to relocate the major jetport was the culmination of a controversy which involved local, state, and federal governments as well as industry, conservation groups and interested persons throughout the nation. The details of that controversy and the relevant documents and arguments are the subject of other studies,³¹ and will therefore not be examined here. The significant aspect of this controversy for the purposes of this study is that it manifests the incompetence and failure of

³¹O. Gray, Cases and Materials on Environmental Law, 1001-38 (1970); Hearings on Water Supply, the Environmental, and Jet Airport Problems of Everglades National Park, Before the Sen. Comm. on Interior and Insular Affairs, 91st Cong., 1st Sess. (1969) [hereinafter cited as Hearings Before Sen. Comm.].

decision-makers to plan for the rational use and preservation of the southern Florida ecosystem. The jetport controversy was only a symptom of the more general failure in this regard which characterizes planning and decision-making affecting the southern Florida watershed and the Park and is the subject of more detailed analysis in the next section.

In September of 1968 construction of a major jetport was commenced by the Dade County Port Authority in the Big Cypress Swamp, approximately 36 miles west of Miami and 6 miles north of Everglades National Park. The authority acquired some 39 square miles of land in Dade and Collier Counties for the jetport at a cost of more than \$13 million. The Report of the Environmental Study Group of the National Academy of Sciences and National Academy of Engineering notes that:

It should be noted that the Port Authority gave detailed consideration to air space requirements and noise. Other environmental considerations were given little or no attention because the Port Authority believed it was outside their jurisdiction to consider the effect the airport would have on the surrounding areas. Instead the Port Authority informed a number of interested resource agencies both at the state and federal level of its intentions. It received explicit concurrences from a number of agencies, and, at this time, no objections were voiced. While a number of individuals within the National Park Service were well aware of the potential dangers of an airport, their apprehensions were apparently not widely circulated in the upper levels of the Department of Interior or to other concerned agencies. The immediate concern of the Park Service was with noise and its effect on the environment and on the direct

pollution by the jetport of the water. Little or no consideration was given to the long term effects of possible commercial, industrial or residential development in the vicinity of the jetport.³²

The objections of the Park Service to noise and direct encroachments upon the lands and environment of the Park manifest the influence of the island concept of national parks discussed in preceding chapters.³³ The Park Service described the proposal to locate the jetport in the general area in which it was finally located as "very heartening."³⁴ It was not until state officials of the FCD objected strenuously to a proposed access highway to be constructed from Miami to the jetport and through Conservation Area No. 3 that opposition to the jetport developed based upon the threat of associated development to the ecology of the Park. A report by the Department of Interior³⁵ and that of the Environmental Study Group of the National

³²Report of the Environmental Study Group to the Environmental Studies Board of the National Academy of Sciences, National Academy of Engineering, Environmental Problems in South Florida, 11-12 (1969) [hereinafter cited as Report of the Environmental Study Group].

³³Chapter II, text at n. 26, Chapter III, text at n. 3 supra.

³⁴Letter from Acting Regional Director, National Park Service, to Chief, Federal Aviation Administration, Airports Division, June 10, 1967.

³⁵U.S. Dep't. of Interior, Environmental Impact of the Big Cypress Swamp Jetport (1969) [hereinafter cited as Leopold Report].

Academy of Sciences and National Academy of Engineers³⁶ both concluded that the proposed major jetport posed a serious threat to the ecology of the Park and that of the entire southern Florida peninsula. The development of access routes, ground services and associated private development which would interrupt and pollute the natural flow of surface water and increase the demand for limited water supplies were considered the major threats rather than the actual jet aircraft flights.³⁷

Concerned groups and individuals throughout the country mounted a campaign to relocate the jetport.³⁸ The agreement between the State of Florida, Dade County and the United States to relocate the jetport to a mutually acceptable site³⁹ was achieved through concerted

³⁶Supra n. 32.

³⁷The results of University of Miami studies monitoring the effects of the operation of the jetport as a training flight facility confirm these predictions.

³⁸Among the most effective groups was the Everglades Coalition which was composed of National Parks and Conservation Assoc., National Audubon Society, Wilderness Society, Nature Conservancy, Wildlife Management Institute, Sierra Club, Citizens Comm. on Natural Resources, United Automobile Workers of America, American Forestry Assoc., Wildlife Society, American Fisheries Society, Natural Area Council, National Recreation and Park Assoc., Defenders of Wildlife, Anti-Pollution League, Florida Audubon Society, National Wildlife Federation, Audubon Naturalist Society, World Wildlife Fund, American Forest Institute, Garden Club of America, Friends of the Earth, United Steel Workers of America.

³⁹The Everglades Jetport Pact, January 16, 1970.

political pressure upon state and federal officials. The decision was a political not a judicial one. The federal government was able to respond to this pressure with financial sanctions against the Dade County Port Authority by indicating that it would not fund the proposed jetport or the necessary highways and access routes to the facility. The relevant statute governing operations and funding by the Department of Transportation provided:

It is hereby declared to be the national policy that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. The Secretary of Transportation shall cooperate and consult with the Secretaries of Interior, Housing and Urban Development, and Agriculture . . . in developing plans and programs that include measures to maintain or enhance the natural beauty of the lands traversed. . . . the Secretary shall not approve any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance as determined by the federal, state, or local officials having jurisdiction thereof. . . . unless (1) there is no feasible and prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such park, recreational area, wildlife and waterfowl refuge, or historic site resulting from such use.⁴⁰

This requirement applied to the construction of an access

⁴⁰ 80 Stat. 931, 933 (1966) as amended, 49 U.S.C. 1651, 1653(f) (Supp. IV 1969).

route through Conservation Area No. 3 which is a state-owned conservation and recreation area. It was also arguably applicable to the operation by the FAA of the jetport with flights over the Park and placed an affirmative burden upon the Department of Transportation to make a "special effort" to secure the Conservation Area and the Park against damage resulting from the transportation corridor and the operation of the jetport.⁴¹ Yet this provision was not applied to the controversy until after public pressure had been exerted and the history of the conflict suggests that at least the Park Service agreed to the location of the Jetport and the requirements of the provision were therefore met with respect to the Park. The inadequacies of procedures for coordination of federal projects which affect the environment, as evidenced in this controversy, were recognized by the Congress. The experience with the jetport directly influenced the formulation and passage of the National Environmental Policy Act of 1969.⁴² Yet the provisions of that Act are applicable only to the actions of federal agencies.

⁴¹See, Memorandum of Associate Solicitor, Parks and Recreation, U.S. Dept. of Interior, May 29, 1969, in Hearings Before Sen. Comm., supra n. 31, at 129-32.

⁴²42 U.S.C.A. §§ 4331-47. Discussed, Chapter V, text at n. 37-46 supra.

The resolution of the jetport controversy was a political one which is subject to change with changing political pressures. The solution was relatively easy since the financial resources of the federal government were involved. The federal government failed to establish a useful precedent in the resolution of the jetport controversy which could serve to secure the water rights of the Park in controversies which did not involve federal participation. Such a controversy is discussed in the next section.

A final aspect of the jetport controversy that warrants attention is the fact that the alleged need for the jetport has been assumed by decision-makers as well as proponents and opponents of the jetport. The issue was where to locate such a facility. Dade County Port Authority officials estimate that the proposed jetport would cost \$350 million, yet an official of the Department of Interior estimates that it will cost \$1 billion.⁴³ Consulting engineers for the Port Authority testified that the proposed jetport would reach capacity by 1985 and that it would then be necessary to seek another site for an additional airport and commented that "That is the nature of this business."⁴⁴ Marine

⁴³The Miami Herald, Wednesday, December 30, 1970, 2B.

⁴⁴Hearings Before Sen. Comm. [supra n. 31], at 110.

comments that:

Jetports are the newest toys for Engineers who are still too little to play with dams in Grand Canyon or gorges in the Great Cascades.⁴⁵

Such toys are expensive and short lived. The threatened imminent and inexorable traffic congestion which allegedly necessitated the construction of the proposed jetport has not materialized and proponents of the jetport now suggest that it will not be needed until 1985.⁴⁶ Flights to Miami have been substantially reduced and thousands of airline workers are jobless as a result of the cutbacks.⁴⁷ It would appear that the jetport is not so desperately needed. Yet these factors and the refusal of the Congress to fund development of the SST aircraft have not deterred advocates of the jetport.⁴⁸ It appears that at least some decision-makers and advocates of the jetport are influenced by the engineering mentality to which Marine refers. Demands for a jetport should not be accepted without questioning the need for such a facility and the costs of meeting such a need.⁴⁹

⁴⁵G. Marine, *America the Raped*, 196 (1969).

⁴⁶The Miami Herald, Monday, March 29, 1971, 6B.

⁴⁷The Miami Herald, Tuesday, December 15, 1970, 1A; Sunday, March 21, 1971, 1A, 24A; Wednesday, March 24, 1971, 6B.

⁴⁸Id., Saturday, December 5, 1970, 1B.

⁴⁹See Chapter II, text at n. 10 supra.

D. The Gum Slough Controversy

Gum Slough is a topographical depression at the southern base of the Big Cypress watershed and just north of the Park. It forms a wide, shallow channel which serves as a natural drainage canal running east-west and slightly southward. The importance of sloughs such as this one and the value and role of the Big Cypress watershed in maintaining the ecology of the Park and the entire southern Florida peninsula have been discussed in Chapter I.

The controversies concerning the threats to the ecological integrity of the Park from human activities in the form of water management projects to control flooding and facilitate urban and agricultural activities and a major jetport have been discussed above and are at least partially resolved. These controversies have been resolved by virtue of federal participation in the challenged activities. The recent decision in Groover v. A.B.E. Options, Inc.⁵⁰ is probably the most important development in the history of the battles to secure the interests of the Park and it has gone almost unnoticed. In the only judicial determination of the water rights of the Park, the late Judge Aquilino Lopez dismissed a petition by private landowners for the establishment of

⁵⁰No. 2-350 (Cir. Ct. Monroe Cty., Fla., December 10, 1970, reh. denied January 4, 1971).

a drainage district in the Gum Slough area on the northwest boundaries of the Park. The court ruled that the proposed drainage district would be contrary to the public interest and a violation of the riparian rights of the Everglades National Park.

1. Participants and Claims

In September of 1969 a group of persons owning land in the Gum Slough area petitioned the Circuit Court of Monroe County, Florida for the establishment of a fifty-square-mile drainage district consisting of their lands and those of other landowners within the boundaries of the proposed district. The location of the proposed district is shown in Figure VI-2. Owners of real property within the boundaries of the proposed district who had not signed the petition and were not in favor of the establishment of such a district were named as respondents.

The proposed district contained some 32,900 acres in Monroe County of which a small group of land investors and speculators owned more than one-third of the total acreage. The same group of individual landowners had been vocal supporters of the proposed jetport and had offered their lands to the Dade County Port Authority as a site for the jetport during the controversy over the location of that facility. Petitioners proposed to drain their lands and those of others within the district so as to render them suitable for dairy farming.

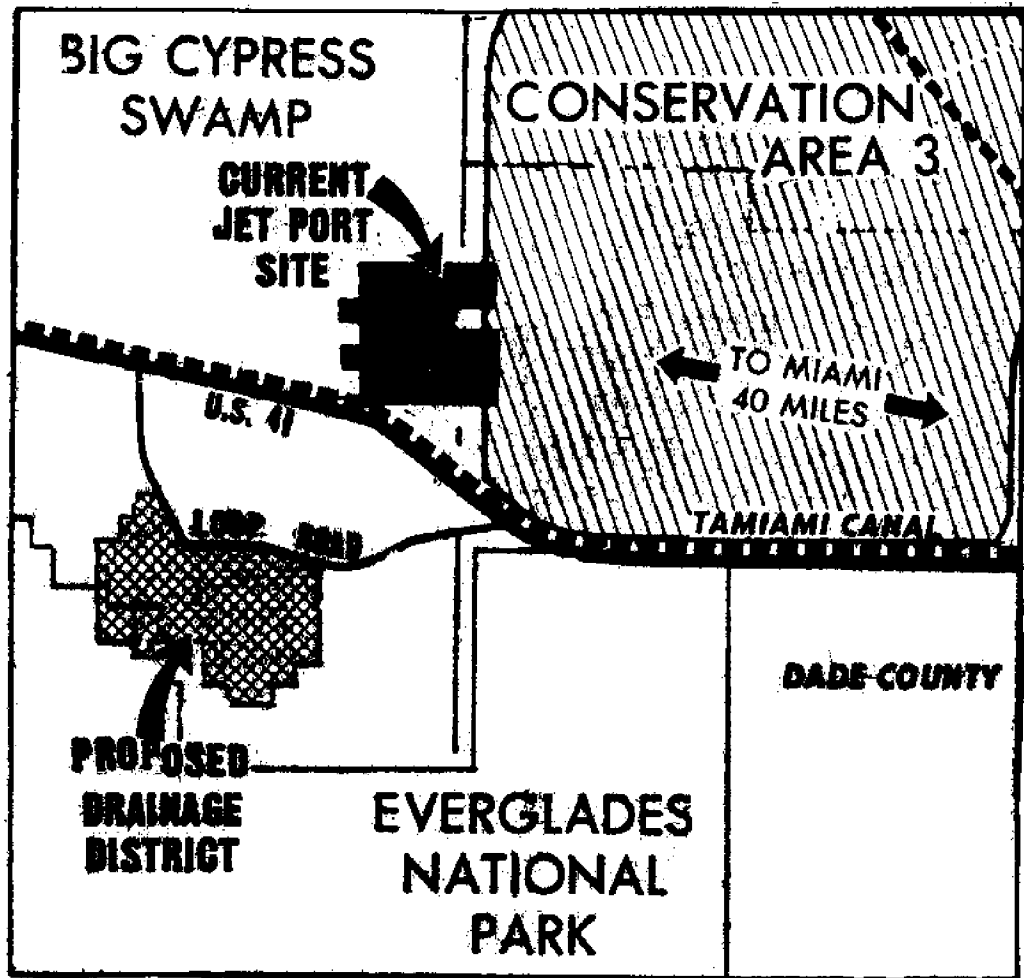


Fig. VI-2. Location of Proposed Gum Slough Drainage District

The petition for the establishment of the Gum Slough drainage district was filed in pursuit of the values discussed and criticized in Chapter II and pursuant to section 298 of Florida Statutes, the General Drainage Act of 1913.⁵¹ That statute provides that a drainage district may be established by decree of the circuit court of the county in which the lands are located upon the petition of a majority of land-owners or owners of a majority of acreage within the proposed district agreeing to obligate and bind their land to pay taxes to fund drainage operations.⁵² Land-owners within the proposed district who do not support the proposed drainage district but whose lands will be obligated and affected if it is established, are given the right to file objections to the creation of the district and a hearing is required in the circuit court. The court is directed to overrule the objections and establish the district

. . . if the court shall be of the opinion that the establishment of the said district and the improvements to be made thereunder will be for the advantage of the owners of the real property therein or that the same would be in the interest of the public health, convenience or welfare.⁵³

The proponents of the drainage district claimed

⁵¹Fla. Laws, Ch. 6458 § 1 (1913); Fla. Stat. § 298 (1969), discussed, Chapter IV, text at n. 99-106 supra.

⁵²Fla. Stat. § 298.01 (1969).

⁵³Fla. Stat. § 298.03 (1969).

that it would not damage the Everglades National Park to the south because they planned a system of canals which would feed the drained waters from the district lands so as to maintain the normal water flow to the Park. At no time did they deny the existence or importance of such a flow of fresh-water to the Park.

Objections to the establishment of the district were organized and directed by the efforts of National Audubon Society which purchased property within the boundaries of the proposed district so as to gain standing to file objections and subsequently sold a one-half interest in that property to the National Parks and Conservation Association which joined as a respondent in filing objections. Audubon Society sent out letters and objection forms to be signed by owners of property within the proposed district objecting to the establishment of the district on three grounds; (1) The cost of the proposed drainage district would exceed the estimated benefits that would accrue; (2) the proposed drainage district would destroy the hunting, fishing and recreational value of the property, the ecological system of the Everglades National Park, and cause great damage to the commercial and sport fishing industry of South Florida; (3) drainage of this land would adversely affect the quantity and quality of the fresh water supply for urban, agricultural and industrial development in southwest Florida. Audubon was supported by a large number

of landowners and diverse interests who objected to the creation of the district and authorized Audubon to represent them at the hearing.

The respondents objecting to the establishment of the district addressed their arguments to the two statutory criteria which the court is directed to consider at the hearing to establish the drainage district. One group of respondents was comprised of persons who owned land within the proposed district and did not want their land to be drained or otherwise disturbed. They addressed their objections to the first statutory criterion of whether the proposed district would benefit landowners within the boundaries of the district. These persons had purchased lands which were subject to periodic or constant overflow and wished to retain those lands in that state for naturalist and recreational uses such as camping, hunting, fishing and nature study. These individuals were joined and supported by others such as swamp buggy and hunting clubs who did not own lands within the district but used the lands for recreational purposes. A second group of respondents opposed the drainage district because of its threatened effect upon the public health, convenience and welfare, the second statutory criterion to be considered by the court. The federal government held an option to purchase lands within the boundaries of the proposed district which

included some 1900 acres of land which were within the authorized but not yet acquired boundaries of the Park. The federal government filed a representation of interest and objections to secure this interest of the public against the threat from the district. The State of Florida objected to the creation of the drainage district because of its threatened effect upon the ecosystem and upon lands held by the state in trust for the people of Florida which were south of the proposed district. Commercial and sport fishing interests opposed the district because of its threatened effect upon the stone crab and other fisheries of southwest Florida which depend upon the flow of fresh-water and the integrity of the nurseries in the coastal mangrove zone. Audubon Society and National Parks and Conservation Association represented all these interests in their objections to the establishment of the drainage district at the hearing on September 30 and October 1, 1970. Uncontroverted expert testimony by witnesses for the respondents described the delicate ecology of the region and testified to the adverse effects of the drainage district upon that ecology which would result from interruption, diminution and pollution of the natural water flow by district activities. Respondents also denied that economic benefit would accrue to owners of

small parcels of land within the district and challenged the economic and physical feasibility of dairy farming in the area. At the close of testimony the court requested that petitioners and respondents submit summary memoranda in support of their respective positions and relating to:

(1) the manner in which the proposed district would benefit owners of so many small parcels of land within the area especially since the use of the land would be for pasture; and (2) the effect of the proposed district on the interest of the public health, convenience and welfare.

2. Applicable Law and the Court's Decision

Petitioners sought to establish a drainage district under Florida Statutes section 298 and were subject to the requirements of that statute. The circuit court functions as an administrative body under the statute in establishing the drainage district. The Florida Supreme Court upheld the statute as constitutional and rejected the assertion that it was an unconstitutional delegation of an exclusively legislative function. The court ruled that the determination of whether conditions exist upon which the law operates is a quasi-judicial function, not an exclusively legislative power and valid under article 5, section 11 and article 2 of the Florida Constitution.⁵⁴ The court stated that:

⁵⁴Burnett v. Greene, 105 Fla. 35, 144 So. 205 (1932).

There is nothing in the Constitution forbidding a statute to authorize a finding by the circuit court that the establishment of a drainage district "will be for the advantage of the owners of the real property therein," or that the district "would be in the interest of the public health, convenience or welfare." Advantage or benefit to the owners of real estate in the area afford the considerations and reasons for establishing drainage districts under the authority of statutes.⁵⁵

Federal courts interpreting the statute have reached the same conclusion,⁵⁶ and the constitutional validity of the act was considered to be well settled in Certain Lands in Putnam County v. East Palatka Drainage District.⁵⁷

In dismissing the petition, the circuit court made five conclusions of law. As to the first of the statutory criteria for the establishment of a drainage district, the court ruled that the drainage district and the improvements to be made thereunder would not be to the advantage of the owners of the real property within the proposed district, finding that the petitioners had failed to show that they represented a majority of landowners or owners of a majority of acreage of lands within the proposed district. Petitioners claimed to represent owners of a majority of acreage but all descriptions of land within the proposed district were

⁵⁵144 So. 205, 206 (1932).

⁵⁶Duval Cattle Co. v. Hemphill, 41 F.2d 433 (5th Cir. 1930).

⁵⁷111 Fla. 795, 149 So. 766 (1933).

by metes and bounds, based upon government survey lines outside the district. No surveys had been conducted within the proposed district boundary lines. The court also found that economically profitable dairy farming would require the use of a minimum of 100 acres of improved land to sustain the minimum sized herd and that there was no showing that there were owners within the proposed district who held lands in sufficient acreage or location for such purposes. A final ground for denying the petition on the basis of its failure to meet the first statutory criterion was the finding that the district, by definition, would drain all the lands within its boundaries and that this would deprive many landowners of the use of their land in its natural state for hunting, fishing, recreational and naturalist purposes, which they presently enjoy.

Concerning the effect of the drainage district upon the public health, convenience and welfare, the court ruled that establishment of the proposed drainage district would be contrary to the public interest and that the establishment of the proposed district would violate the riparian rights of the landowners within and below the district, including the lands owned by the State of Florida and the lands of the Everglades

National Park owned by the federal government.⁵⁸ The court also ruled that the establishment of the proposed district would be contrary to Article I section 2 of the Declaration of Rights of the Constitution of the State of Florida and contrary to the fifth and fourteenth amendments of the United States Constitution which preclude any state from depriving any person of life, liberty or property without due process of law. These

⁵⁸The court made the following findings of fact, based upon uncontradicted testimony: "(4) (a) Establishment of the proposed drainage district would irrevocably interrupt the natural sheet flow of water which exists in this area. The establishment of this district would thus result in a change in the natural food chain which would be detrimental to fish and wildlife in the area and in areas dependent upon the proposed drainage district area for water supply. These areas include lands owned by the State of Florida, the Everglades National Park and the coastal waters of southwest Florida. (b) The establishment of dairy farming operations in the proposed drainage district would pollute the quality of water flowing into the lands owned by the State of Florida, the Everglades National Park and eventually the coastal waters of southwest Florida. Such water pollution would destroy parts of the food chain and detrimentally affect the breeding grounds of fish and wildlife in the area of the proposed district, surrounding lands of the State of Florida, the Everglades National Park and the coastal zone of southwest Florida. This would result in the destruction of a number of valuable species of sport and commercial sea life. (c) The proposed drainage district would alter the ecosystem of the Everglades National Park. (d) The proposed district could seriously affect the water supply of southwest Florida. Groover v.A. B. E. Options, Inc., No. 2-350 (Cir. Ct., Monroe Cty., Fla., December 10, 1970), 3, 4.

rulings may be analyzed as developments in three substantive areas of the law: water law; land use law; and constitutional law.

a. Water Law

The law governing the rights to use and diversion of surface waters in Florida has been discussed in Chapter IV.⁵⁹ That discussion suggested that Florida law permits a landowner to drain surface water from his lands but always limits the right to prevent diversion, cessation, diminution or increase of the quantity and alteration of the quality of the flowing water to the injury of other proprietors. Respondents objected to the threatened impairment of water quality and to the diminution and occasional sudden increases in quantity of waters naturally flowing to their lands which would result from the operation of the proposed district. Their right to the natural flow of these surface waters was well established in case law and is arguably protected by even those cases which retain the distinction of the common law between defined and diffused surface waters. Petitioners admitted that the waters of the region involved constituted a "very broad and shallow river,"⁶⁰ and this treatment of the watershed reflects the function of the surface waters in sustaining the ecosystem as it flows southward and conforms to the

⁵⁹Text at n. 69-97 supra.

⁶⁰Petitioners' Summary Memorandum, 7.

ecologist's treatment of the essential function of the flowing fresh-water in the ecosystem.

Petitioners were unable to produce plans of the proposed drainage district to demonstrate that drainage operations would not divert and alter the quality and quantity of the water naturally flowing to the lands of respondents. The uncontroverted evidence of the damage that would result from such obstruction and modification of the natural flow placed the case squarely within the scope of the rule established by the Florida courts.

Only two arguments were advanced by petitioners to overcome the evidence of environmental damage which would result from their proposed drainage district. They argued that the Everglades and Everglades National Park had been adversely affected by the activities of the Central and Southern Florida Flood Control District and other activities far more than they would be damaged by the proposed district.⁶¹ Assuming, arguendo, the validity of the claim, the Third District Court of Appeal of Florida rejected such an argument that further damage should be ignored, stating that:

No doubt the instant litigation is representative of an entire assault by the people of this nation in response to the "crimes against the environment" which have been perpetrated by the users of our amassed technologies. Recognition

⁶¹Id. at 6, 7.

of the public's right to pure air, soil, and water has been forthcoming from a vast segment of the governmental agencies entrusted to protect these interests for our country's people, and the legal community is now mobilizing itself to pursue the avenues of relief available. In all likelihood, the lion's share of these efforts to secure a pollution-free environment will be heard by the many courts existing in the federal and state jurisprudential systems, and it appears to us that the appellant's position on this point, if accepted, would lodge a perpetual barrier against any subsequent pursuit of legal remedies by parties aggrieved in the future.⁶²

Petitioners' second argument asserted that the drainage district would be "in the nature of an island, in the very broad and shallow river called the Everglades" and that waters would flow through and around the district without adverse effect upon lower landowners.⁶³

This fallacious argument has been discussed and criticized in preceding chapters.⁶⁴ The drainage district could not be constructed as an island in the physical sense, according to respondents' expert testimony, and petitioners offered no plans to demonstrate the means by which natural flow and quality would be maintained. Nor could it function as an island in the ecological sense

⁶²City of Miami v. City of Coral Gables, 233 So.2d 7, 9 (3rd D.C.A. 1970).

⁶³Petitioners' Summary Memorandum, 7.

⁶⁴Chapter II, text at n. 11-13; Chapter III, text at n. 3 supra.

since a functioning natural environment is a system.

The importance of the Gum Slough decision to the field of water law is to be found in its articulation and application of the civil law or natural flow doctrine so as to secure and clearly label riparian rights of the Everglades National Park and other landowners outside the boundaries of the district to the surface waters of the southern Florida watershed.⁶⁵

b. Land Use Law

Petitioners argued unsuccessfully that drainage and water control in this area were inevitable and that orderly development could better be accomplished by establishment of the drainage district than by uncoordinated, haphazard drainage operations of individual landowners. They argued that such uncoordinated individual drainage would be the result of denying the petition since the owners of land within the proposed district had inherent rights incident to the ownership of real property which secured the right to make beneficial use of their lands.⁶⁶

⁶⁵In a similar recent case, the Circuit Court of Desoto County, Florida enjoined defendants who proposed a drainage district from taking any action which would impede the flow of adequate waters through existing natural channels to plaintiff's lands within the proposed drainage district so that plaintiff could maintain the water table upon his property for preservation of the wildlife and ecology of his lands. Hall v. Garner, No. 11, 247 (Cir. Ct., Desoto Cty., Fla., May 21, 1970.

⁶⁶Petitioners' Summary Memorandum, 4, 5.

The fallacy of this argument has been discussed and criticized in preceding chapters⁶⁷ and was rejected by the court.

Petitioners sought the benefits of a tax district under state law and were subject to the findings of the court that such development was not in the public interest and not inevitable. Neither was the right to drain a legally protected one, the denial of which required compensation. The court found that the proposed drainage district would not be in the interests of the property owners within the district nor would it be in the interest of the general public. The proposed drainage district threatened to violate the rights of other landowners and as such threatened a nuisance, an unreasonable use of land judged by the standards of the statute controlling establishment of such districts and other applicable law.

The use of lands proposed by petitioners was denied by the court but other uses which may be characterized as passive uses for recreational, naturalist and aesthetic and ecological purposes remain available to the landowners and the public. The law sustains a restriction of the use of land if the restriction is not arbitrary and is based upon the reasonable exercise of the police powers to secure or enhance the public health,

⁶⁷Chapter II, text at n. 10 supra.

convenience, safety or welfare.⁶⁸ The Drainage Act directs the court to consider just such guidelines.

c. Constitutional Law

The doctrines which may support a finding of a constitutional right to a quality environment have been discussed in preceding chapters.⁶⁹ Although the decision in the Gum Slough case was not based upon an express finding of such a constitutional right, the decision may be viewed as another step in the development of such a doctrine.

The court ruled that the proposed district would violate section 2 of the Declaration of Rights of the constitution of the State of Florida. This section guarantees all men "inalienable rights, among which are the right to enjoy and defend life, and to pursue happiness. . . ." The court appears to have accepted respondents' contention that the threatened destruction of the environmental integrity of the Gum Slough area which sustained the sources of respondents' livelihood and happiness would violate those inalienable rights and apparently included the right to a natural and safe environment and enjoyment of natural resources among those rights in the present controversy. This

⁶⁸Discussed, Chapter V, text at n. 227-41 supra.

⁶⁹Chapter V, text at n. 104-32 supra.

right was also protected by the fifth and fourteenth amendments of the United States Constitution and the proposed district was denied as a threatened violation of that right.⁷⁰

3. Recent Developments in the Gum Slough Area

The court's order in the Gum Slough case dismissing the petition was rendered December 10, 1970. Within one month National Park Service personnel at Everglades National Park and concerned citizens became aware of the commencement of land clearing operations within the boundaries of the proposed Gum Slough drainage district. The extreme drought in southern Florida had left the area unusually dry and the absence of surface water facilitated clearing and road building operations. Water control structures including canals and levees were constructed in conjunction with roads and general land clearing operations. These operations are continuing at the date of this writing. Several individuals who had petitioned for the establishment of the drainage district are acting as individual landowners to drain and render their lands suitable for development as they had desired but without the benefits of the drainage district which

⁷⁰Groover v. A.B.E. Options, Inc., No. 2-350 (Cir. Ct., Monroe Cty., Fla., December 10, 1970), 4, 5.

would have enabled them to tax the lands of others within the proposed district.

A key figure in the original drainage district proposal explained that "We didn't appeal the case, because as far as we were concerned, it didn't make that much difference."⁷¹ These individuals own approximately one-third of the lands within the proposed district and claim that they are interested in draining the area for use for vegetable farming but that their plans are "open ended."⁷²

Figure VI-3 shows the location of these current drainage operations. At the same time a Miami real estate firm is offering and selling "waterfront estates" for private development two miles inside the northern boundary of the Park, another group of landowners is clearing their lands for drainage that is designed to render their lands high, dry and "suitable for development,"⁷³ and numerous oil survey lines and test borings appear throughout the area of the Big Cypress Swamp just north of the Park, apparently in preparation

⁷¹The Miami Herald, Monday, April 12, 1971, 22A.

⁷²Id.

⁷³Id. at 1A.

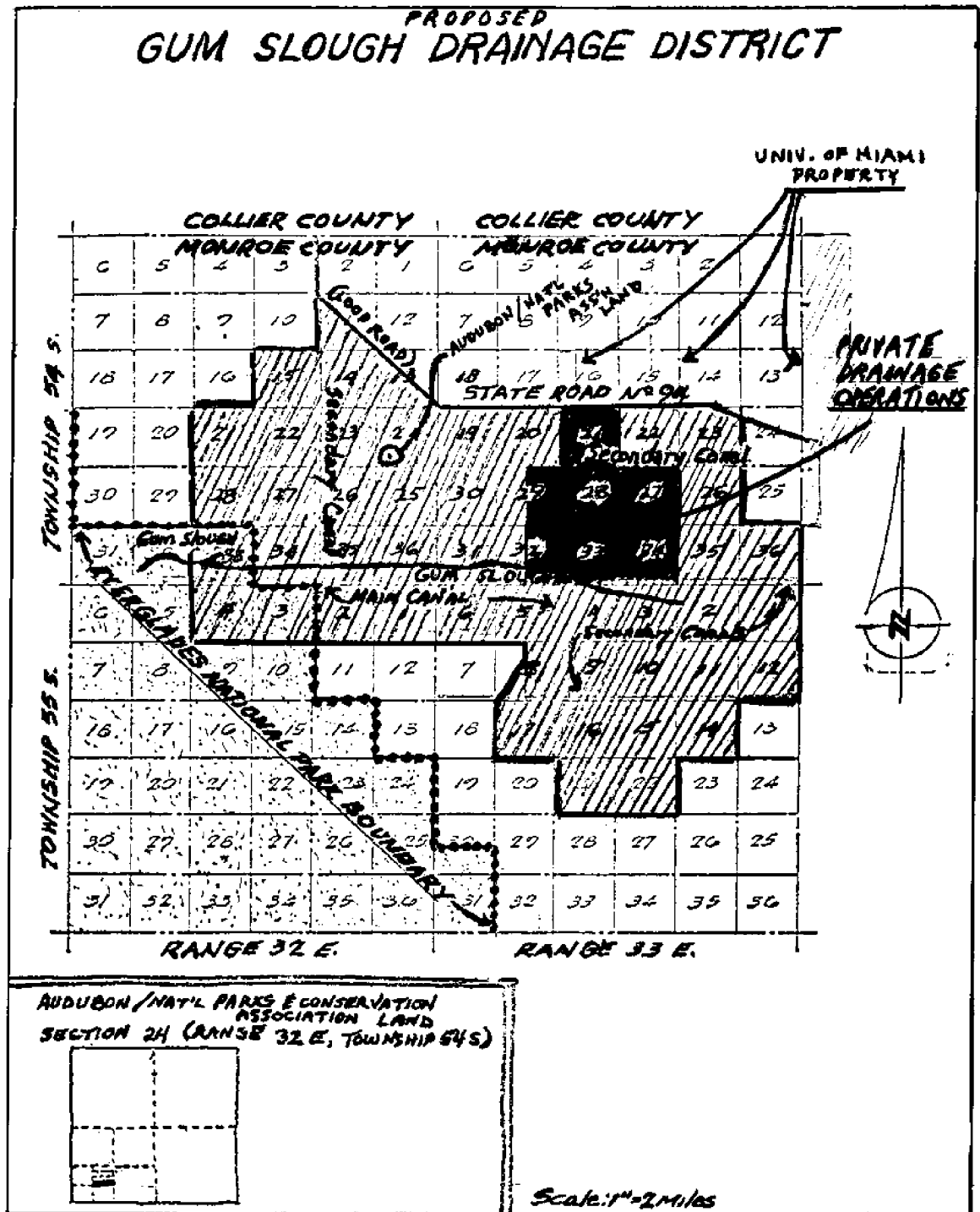


Fig. VI-3. Proposed Gum Slough Drainage District and Site of Current Drainage Operations in the Gum Slough Area

for intensive oil exploration and exploitation which would result in additional development and threats to the Park. Figure VI-4 shows the location of some of these activities.

The drainage and development operations in the Gum Slough area have already resulted in considerable physical changes in the terrain and vegetation and the canals which have been completed will significantly affect water flow to the south when the area is inundated in the wet season. These operations threaten to result in the same violation of riparian and other rights and the same adverse environmental effects upon neighboring lands, the Everglades National Park and the waters of southwest Florida as were threatened by the proposed drainage district. It was the threat of the violation of such rights and the adverse effects of the proposed district which served as the basis of the court's order denying the petition in the Gum Slough case. Many of the anticipated adverse environmental effects of the proposed drainage district may be irrevocably accomplished by individual landowners in the same area.

Park officials who have been aware of the drainage operations since they were commenced express their dismay and apparent despair at the possibilities of preventing or halting such operations, explaining that "It's still a fairly free country and it is private land."⁷⁴

⁷⁴Id.

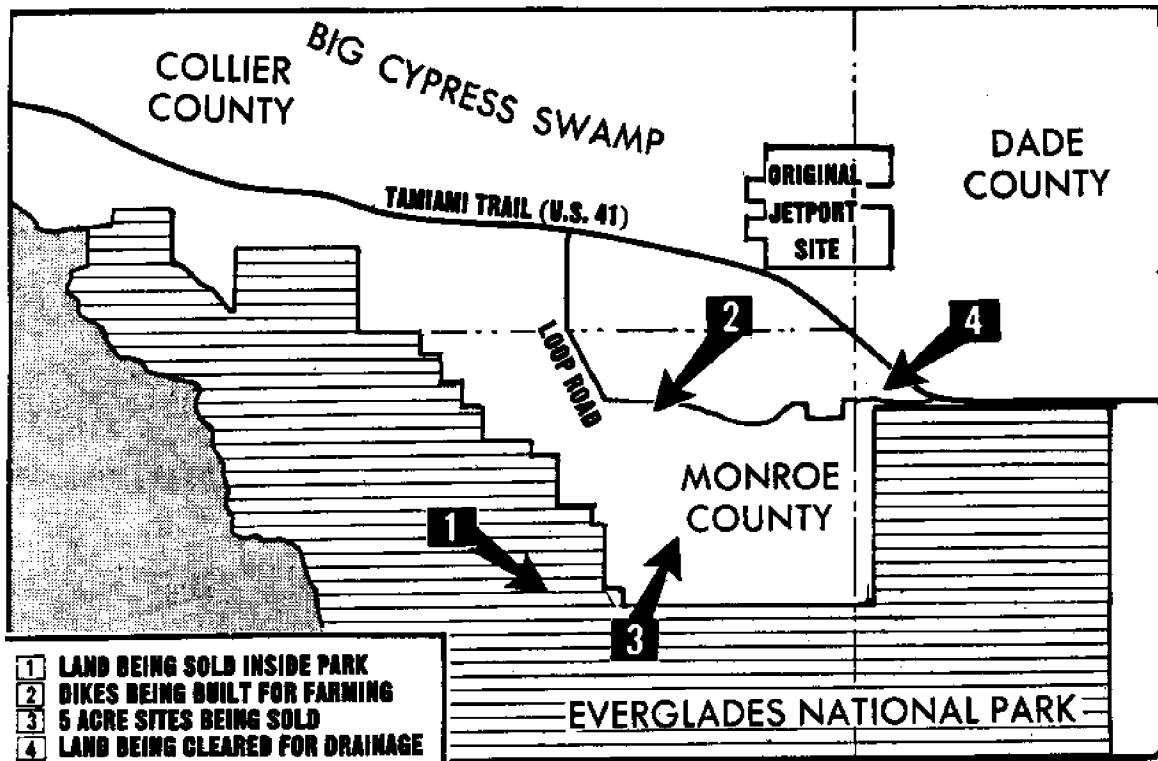


Fig. VI-4. Location of Current Clearing and Drainage Operations in the Gum Slough Area

National conservation groups and concerned citizens and landowners in the area have anxiously awaited governmental action to prevent further drainage operations by means of the application and enforcement of the Gum Slough decision and the court's conclusions of law.

Interior and Justice Department personnel are rumored to be conferring on the subject but past experience with these officials gives little or no cause to expect timely and effective action to enjoin these operations before they are substantially completed.

The State of Florida has filed an action in the Circuit Court of Monroe County to enjoin the drainage and development activities of several individuals and corporations in the area based upon its riparian rights and its authority to protect state lands, fish and wildlife and the water supply of southern Florida which are threatened by the activities.⁷⁵ This action by the Trustees is encouraging yet it is several months late and cannot serve to establish the rights of the Park.

4. The Problem

The Gum Slough decision was a potent one. It reflected the rational development of law and policy

⁷⁵The Florida Board of Trustees of the Internal Improvement Fund and the State of Florida v. Groover, Pace, Farm & Leisure Estates, Inc., Basket Corp., and Cotton Realty Corp., No. 4-444 (Cir. Ct., Monroe Cty., Fla., June 28, 1971).

that drainage and alteration of the watersheds of southern Florida was no longer reasonable or in the public interest. The court's conclusions of law were of equal weight and although the order was rendered in response to a petition under the General Drainage Act, the conclusions were not in any way restricted to such a formal petition but established positive rights which formed the basis of the court's decision that the proposed district was not in the public interest. It would seem that the court's conclusions that the drainage operations would violate riparian rights and would be contrary to the public interest would be applicable to similar activities whether or not proposed pursuant to the General Drainage Act. The rationale and conclusions of law of that decision would be at least persuasive in an action to enjoin similar activities which threatened a similar violation of rights and interests.

The federal government participated in the Gum Slough case and argued that the proposed district would violate its rights and be contrary to the public interest. Yet there has been no federal attempt to apply the rulings of that case to the present drainage operations which appear to be factually indistinguishable from the proposed district activities and threaten the same violation of rights and damage to the public interest. National Audubon Society, National Parks and Conservation Association, and concerned citizens

have been disappointed by the default of the federal government and have conferred with their attorneys who have volunteered their services,⁷⁶ with a view to taking legal action in lieu of governmental action to secure the public interest. The federal government has indicated that it would prefer to join such an action brought by Audubon and National Parks and Conservation Association rather than to initiate an action.

The petition for the Gum Slough drainage district was successfully opposed by national conservation groups, landowners within the proposed district and other non-governmental interests representing the public. The federal and state governments were only nominally involved and federal participation was accomplished only after considerable pressure from concerned groups and individuals. Neither government contributed anything to the organization or legal preparation of the case aside from making witnesses available for expert testimony at the hearing. Both governments relied completely upon the attorneys for the national conservation groups for the research, structure, strategy and presentation of the case. The federal government appears to be relying upon these same groups and individuals to secure the public interest again in the present circumstances. Yet the land of the conservation groups is not downstream of the present

⁷⁶Dan Paul, Esq. and Joseph Z. Fleming, Esq., Paul & Thomson, Miami, Florida.

drainage operations and they may therefore lack standing to sue to prevent a violation of riparian rights. Such a violation may not be threatened by the present operations and the federal government is the appropriate party with standing to sue to protect the Everglades National Park in the present controversy.

Any decision of the federal government to institute legal action to prevent further drainage in the Gum Slough area will be inexcusably late and possibly too late. The basic problem facing environmentalists and the general public is that the executive branch of government is not doing its job. Despite rhetoric of the federal government proclaiming a commitment to environmental quality,⁷⁷ its actions and defaults belie that rhetoric. The default of the federal government and the belated action of the state government place the burden of securing the public interest in a quality environment upon a very small number of financially limited individuals and groups who cannot possibly cope with the number and scale of the environmental problems threatening the nation. Nor should private citizens need to perform the service for which they pay tax dollars to secure the public interest. The basic public policy decision concerning environmental quality is no longer

⁷⁷Chapter V, n. 30 supra.

the subject of debate. Yet the pattern and design which emerges from the decisions and actions of the executive branch of government is one of default and incompetence in implementing the policy decision to secure the public interest in a quality environment.

This pattern is distressingly apparent in southern Florida where the federal government has relied exclusively upon local and national conservation groups and concerned individuals to secure the public interest. The jetport controversy which attracted national attention was erroneously cast in terms of environmentalists versus private land speculators, commercial airlines and local governments which were influenced by these vested interests. It was in fact environmentalists versus the executive branch of the federal government which had originally approved the site of the facility through National Park Service officials and funded it and which only subsequently and belatedly responded to national sentiment and pressure to force abandonment of the completed training facility and relocation of the major facility because of its threat to the Park. The entire campaign against the jetport site and the ultimate agreement to relocate the facility was initiated, organized and sustained by the same groups and attorneys who successfully opposed the formation of the Gum Slough drainage district. Similar governmental default and incompetence was battled

and overcome by a small number of individuals to halt the construction of the Cross Florida Barge Canal, a federal project. In the controversy concerning thermal pollution of Biscayne Bay by an electric power plant, the federal government made a rare attempt to secure the public interest in a quality environment without the guidance and assistance of non-governmental persons and groups, and failed miserably.⁷⁸

5. Evaluation

The difficulties encountered in the Gum Slough controversy are representative of the problem encountered throughout the nation in environmental and other matters affecting the public interest. Yet the Gum Slough controversy is distinctive in that it involves no factual or ideological dispute between non-governmental advocates of environmental quality and the executive branch of government concerning the definition of the public interest. There is no disagreement as to whether environmental

⁷⁸In *U.S. v. Florida Power & Light*, 311 F. Supp. 1391 (S.D. Fla. 1970) the court denied the government's motion for a preliminary injunction. The government failed to utilize studies conducted by scientists at the University of Miami and which had been funded by the federal government, failed to prepare its expert witnesses and failed to present a case which would justify the court in granting its motion for an injunction to prevent the discharge of heated water into Biscayne Bay and to prevent further digging of an effluent canal to discharge heated water from a nuclear generator when completed.

quality or drainage of the Gum Slough area is in the public interest. The federal and state governments participated in the Gum Slough case and supported the decision. The failure of the federal government to enforce the clear determination of the public interest is especially illustrative of the problem facing the nation with regard to environmental quality and other aspects of the public interest. An examination of the controversy reveals at least three main areas in which the executive branch of the government has been at fault. These comments are applicable to both the federal and state governments but are especially addressed to the federal government because it alone has the resources at its disposal necessary to deal with these problems and it alone is charged with the authority and duty to attempt their resolution.

a. The federal government has failed to plan and conduct relevant and usable scientific research. Federal officials have been aware of the threat of drainage and development in the Big Cypress area for many years. Yet the general attitude of federal personnel was one of surprise when the petition to establish the drainage district was filed and an atmosphere of crisis and helplessness prevails in the face of the recent drainage operations by individual landowners. There were no competent scientific studies which would have been

admissable in court to establish that there was in fact a natural flow of water southward in the Gum Slough area had the existence of such a flow been denied by the petitioners. There are very few relevant and admissable studies concerning the effects of pesticides, fertilizers and other forms of pollution upon water quality and life forms of the Everglades National Park. Scientific research concerning the ecology of this area has been fragmented and fails to adequately establish the causative role of development and drainage in the process of environmental degradation of the area. Research has been designed and conducted without regard to the need to document the effects of drainage and development upon the Park and without regard to the requirements of the law of evidence.

b. The inertia of the federal government has permitted drainage of a substantial segment of the Gum Slough area. The government's failure to attempt to apply the rules of law established in the Gum Slough case has made petitioners' argument that "It is inevitable that drainage and water control will be undertaken on the mainland of Monroe County"⁷⁹ a statement of fact. Petitioners apparently relied upon governmental inertia and inaction, despite the court's rejection of their argument, and were confident that they would be able to achieve

⁷⁹Petitioners' Summary Memorandum, 4.

drainage of their lands.

c. The incompetence of the government in discovering and implementing legal theories and approaches to secure environmental quality and the integrity of the Everglades National Park has caused the general feeling of helplessness that pervades the operating level of the executive branch of government when dealing with these problems.

Petitioners' arguments that landowners have inherent rights to drain and otherwise make use of their property were rejected by the court in the Gum Slough case. The court ruled that the Park and other landowners had riparian rights to the flow of surface water which would be violated by the drainage proposed by petitioners. These rulings by the court have apparently been ignored by the federal government. The recognition of riparian rights to the surface waters of the southern Florida watershed is not a radical departure but rather a logical and well-supported application of existing Florida case law to the present controversy. The traditional distinction of the common law between defined and diffused surface waters fails to serve the needs of contemporary society if it denies such rights to the waters of the Big Cypress and similar watershed, and this distinction has been significantly eroded in Florida and other jurisdictions which have come to value surface water

as a scarce commodity. Even assuming, arguendo, that the common law distinction was valid and operative in this controversy, it might be argued that these waters flow in a sufficiently defined course with sufficient seasonal regularity so as to constitute them defined surface waters under the common law approach.

In addition to the doctrine of riparian rights which was articulated by the court in the Gum Slough case, several other legal theories appear to be available to the federal and state governments in this and similar controversies.

Several of these doctrines have been discussed in preceding chapters. In cases of already existent drainage districts established under Florida Statutes section 298, the General Drainage Act itself affords the State of Florida the opportunity to file a petition in circuit court to amend the plan of reclamation of the previously established district or to otherwise alter or amend the original decree. The federal government could similarly petition in cases where it was an adjacent landowner.⁸⁰

These legal doctrines offer the federal government an opportunity to attempt to secure the southern Florida environment against degradation resulting from

⁸⁰Fla. Stat. § 298.07 (1969).

interruption, diminution and contamination of the fresh waters of Gum Slough and the entire Kissimmee-Okeechobee-Everglades watershed. No single theory assures success and any attempt to pursue these options would require talented and intensive research and advocacy and a close coordination with scientists in order to be successful. Non-governmental groups and individuals lack the requisite funds and other resources necessary for such a well coordinated and comprehensive program of litigation. Yet the federal government appears to lack the inclination and capacity to undertake the effort and indeed, it was the legal research and advocacy of non-governmental attorneys in the Gum Slough case which established the legal basis for the determination of the Park's riparian rights. The concept of riparian rights was probably the simplest of the legal doctrines with which the federal government would have to deal in implementing a comprehensive program to secure the watersheds of southern Florida.

6. Proposed Federal Action to Secure the Big Cypress Swamp

The federal government has not explored the possibilities of litigation based upon any of the theories discussed in preceding chapters. The executive branch of the federal government is, instead, considering several alternatives for securing portions of the Big Cypress Swamp

which are considered essential to the maintenance of the Park and southern Florida ecosystem. A report to the Secretary of the Interior by the Everglades-Jetport Advisory Board,⁸¹ comprised of representatives of nine offices of the Department of Interior and the Environmental Protection Agency, considers fee acquisition, control by state and county authorities, joint local-federal control, trusteeship and federal control as possible courses of action. The report recommends federal control involving a combination of fee acquisition and compensable land use restrictions through regulations of lands in the southeast portion of the Big Cypress Swamp, including the present jetport site and the Gum Slough area. It estimates that the cost of such acquisition and regulation will be approximately \$36 million.⁸²

This proposal manifests all the faults and misconceptions that characterize the federal approach to environmental quality. Several of the most egregious shortcomings of this approach are apparent in the preliminary form of the proposal and in similar proposals to acquire additional portions of the region which are being circulated within the executive branch of the federal government.

⁸¹U.S. Dep't. of Interior, The Big Cypress Watershed, A Report to the Sect'y of Interior by the Everglades-Jetport Advisory Board (1971) [hereinafter cited as Big Cypress Watershed Report].

⁸²Id. at 36-39.

The most fundamental defect of the proposal to acquire the Big Cypress area is one of strategy and philosophy of government. A legislative taking of the lands in the Big Cypress admits the validity of petitioners' argument that:

Preventing the use of land is tantamount to a taking. . . . If the federal or state governments wish to prevent any private development in the Everglades, between Lake Okeechobee and the land in the Everglades National Park, their proper remedy is the taking of such lands through eminent domain.⁸³

This is clearly not a correct statement of the law of land use. Restrictions upon the use of land are valid and not a taking unless virtually any use is denied to the landowner. Recreational and naturalist uses of the lands would not be restricted but only those which threatened to violate the riparian rights of downstream landowners and the public interest. The circuit court ruled against petitioners' contention in the Gum Slough case. Yet the plan proposed by the federal government ignores the law of land use and regulations such as zoning.⁸⁴ The proposal involves the promulgation of a master plan by the Secretary of Interior for authorized uses within the regulated and acquired areas of the Big Cypress Swamp.

⁸³Petitioners' Summary Memorandum, 5, 6.

⁸⁴Discussed, Chapter V, text at n. 227-41 supra.

Activities which modify the timing, quantity or quality of the natural water flow within this area would be proscribed.⁸⁵ The proposal notes that:

The issuance of such Federal land use regulations would contemplate the preparation of a land use plan for the entire area, encompassing both lands to be donated and purchased by the Federal Government and lands to remain in private ownership, subject to reasonable regulation.⁸⁶

But the crucial issue of whether the regulation is reasonable and necessary and therefore not one which requires compensation is ignored by the proposal which states that:

The proposal for Compensable Federal Land Use Regulations, moreover, meets the requirements of the Fifth Amendment of the Constitution by providing for the payment of just compensation where a taking (i.e. a reduction in value due to the restriction) is shown.⁸⁷

The determination of a taking does not depend singly upon the reduction in value due to the restriction. The federal government is assuming, and guaranteeing by its proposal and suggested legislation to implement it, the necessity of compensating for a taking of lands in fee or a restriction of use.

Such an approach denies the validity of the arguments of the federal government in the Gum Slough case.

⁸⁵Big Cypress Watershed Report [supra n. 81], at 38, 47-50.

⁸⁶Id. at 38 (emphasis added).

⁸⁷Id. (emphasis added).

The proposed course of action will subvert the beneficial effect of the decision in that case and set a precedent to apply to similar controversies. The effect of this course of action may be to require the federal government to buy or compensate owners in order to control the use of, virtually all lands which are ecologically linked and therefore threatening to other lands which it wishes to protect from the effects of drainage or other forms of development. It will be politically difficult, if not impossible, for the federal government to avoid the necessity of compensation in other areas of the nation in similar controversies without being subjected to attack and criticism for an inconsistent policy and treatment of such lands.

The thrust of ecological awareness is that the natural environment is a system of interdependent components. There are no "islands" in such a system. The federal and state governments already own a very considerable portion of the lands of southern Florida. Much of this property was acquired for the purpose of protecting, by isolating, selected aspects of the natural environment. The Everglades National Park is the result of this approach and the problems which threaten its existence demonstrate the inadequacy of the attempt to create "islands" which cannot survive the effects of human activities around them. Human activities must be

regulated so as to secure the environment against their adverse effects or the federal government must purchase the entire environment. The rationale of the present proposal suggests that the federal government has decided to pursue the latter option and admits that regulation is a taking. This approach is clearly not required by the law of land use but results from desperation after incompetence and default in exploring the other options available to the executive branch of government to secure environmental quality. If the purchase of those lands which impact upon environmental quality were the only option available to the government, then the wisdom and validity of an environmental movement and program which required the purchase in fee by the federal government of most lands of the nation might well be questioned by even the most committed environmentalists. Competing public interests in health, housing, employment, education, and other aspects of the public health, convenience and welfare are human social components of the overall environment which are equally, if not more, immediately threatening and demanding of attention and funding. Although litigation is no panacea for all environmental problems, it is relatively inexpensive when compared to a minimum \$36 million dollar expenditure in one small area, and the precedent value of successful litigation serves the function

of reducing rather than increasing the likelihood of further expenditures and efforts to secure those values to which it is addressed. It is unconscionable to pursue a course of purchase and compensated regulation in the Big Cypress without first attempting to secure the public interest in the quality of the environment through other legislative approaches and litigation based upon presently available legal theories.

A second fault of the proposal in its present form is that it treats the Big Cypress watershed as lands and fails to recognize its function as a watershed and the nature of the problems as those of the coastal zone. Even if purchase is required to secure the environmental integrity of the region, it should not be necessary to purchase the lands in fee. The continued ecological function of the region and the integrity of the flowing waters is the value to be secured, not fee title to all the lands of the region. Flowage easements, implied or by estoppel, and other restrictions on the use of the lands could be obtained by legislative taking or by litigation. Such restrictions might well be imposed without the need for compensation of landowners and many might be secured voluntarily from landowners who were assured of the integrity of the entire region. Where a taking and compensation were necessary, such a course of action would be far less expensive than the purchase of the fee title to those lands.

The threat of activities outside the boundaries of the proposed recreation area would remain a serious one and could still cause damage to the Big Cypress, the Park and the waters of southwest Florida.

A final major fault of the proposal is an administrative one. The generation of the proposed total plan for use and activities within the acquired and regulated area will be a difficult task and administration of the plan to insure that regulations are not violated will be even more difficult. Enforcement of such a plan will necessitate litigation in addition to that which will be required under the compensation provision relating to the imposition of regulations. The delay and probable default of the federal government in the Gum Slough controversy offers little hope for energetic and competent litigation efforts to protect the proposed area of federal control. The litigation efforts which will be required to implement the proposed plan would be more profitably expended in an effort to explore and develop the potential of the doctrines which are presently available to the federal government to secure the watersheds of southern Florida.

CHAPTER VII

CONCLUSION AND RECOMMENDATIONS

There is sufficient authority and flexibility in the existing body of law to afford significant protection to the Everglades National Park and the southern Florida ecosystem. Traditional and developing doctrines of law provide an institutional basis for the recognition and protection of the water rights of the Park. Presently available law has not been effectively utilized to serve this purpose.

The Everglades National Park is a component in a hydrobiological system which is the Kissimmee-Okeechobee-Everglades watershed. Modifications of this system affect the entire peninsula and coastal waters of southern Florida. The federal and state governments must recognize the ecology of southern Florida and plan accordingly.

The planning process should include a dynamic legal component. Planning and design of scientific research and strategy in southern Florida should consider and prepare for the need to litigate and should include attorneys who are familiar with the ecology and law of the region.

Efforts to draft and introduce a bill to authorize

federal acquisition of lands in the Big Cypress area should be redirected. Legislation to resolve this and other problems should be prepared and introduced where litigation and other efforts under present law are found to be inadequate to secure the ecological integrity of the Park. The need for such legislation and its necessary elements can be determined only after comprehensive research and planning efforts in conjunction with litigation based upon present law to explore and evaluate options available to secure the public interest.

Non-governmental groups and individuals should stop doing government's job. The inertia, disinclination and incompetence which characterize the approach of the executive branch of government to environmental problems generally and those of the Park specifically, should not be accepted with resignation. Actions by non-governmental parties to secure environmental integrity and efforts to cajole governmental officials into action should be redirected. Non-governmental groups and individuals cannot continue to assume the major portion of the burden of protecting the environment and still hope to succeed. The executive branch of government will only act to fully discharge its responsibilities when those responsibilities are not discharged by groups and individuals outside government. The actions of many groups and individuals, motivated by

a sincere and very deep concern and commitment to the public interest, have the effect of perpetuating the default of government by temporarily solving crises. The general public is lulled by such temporary solutions into the belief that permanent resolutions of environmental problems have been accomplished.

Concerned groups and individuals should demand that the federal government enforce existing law and discharge its responsibilities. If the executive branch of government continues to default in the discharge of its responsibilities, non-governmental groups and individuals should be funded with tax dollars to perform the governmental function of securing the public interest in the ecological integrity of the Everglades National Park and in environmental quality generally.

The decision process is one of compromise and accommodation of competing interests and values. The public interest in environmental quality and in the preservation of the Everglades National Park is undisputed. Yet the Park has been substantially and adversely affected by human activities which have modified the timing, quantity and quality of its water supply. The unique flora and fauna which were to be preserved by establishment of the Park have not been preserved. Accommodations have been made which sacrificed the preservation of the ecology of the Park in order to gain

other values. Yet the decisions which resulted in these compromises affecting the public interest were not rational and articulate judgments by Congress but were rather the result of inaction by the executive department of the federal government in enforcing and applying applicable law and policy. If further compromises between allegedly competing public interests in development of southern Florida and the preservation of the Park are necessary, they should be the result of a congressional determination that application of the presently applicable law to secure the water rights of the Park is not in the public interest.

